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JANUARY, 1936

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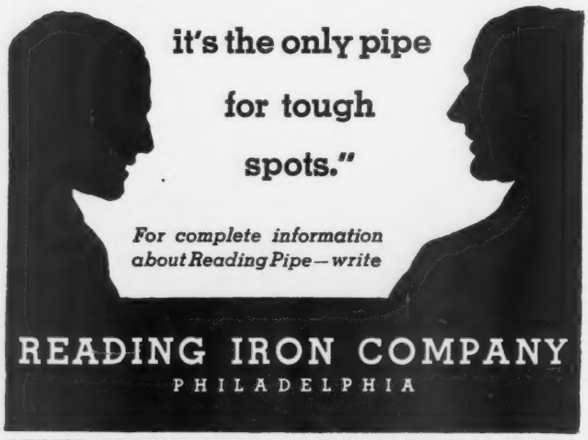

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FUTURE WORK RELIEF

Now Is the Time to Plan

Architects, Engineers and Contractors Should Jointly Address Congress

THE Seventy-fourth Congress will consider some of the most momentous legislation in the history of the United States. Neutrality, veterans' adjusted compensation, agricultural administration, old-age pensions, Congressional regulation of currency and divers other proposals will become the subject of bitter controversy by public, press and legislature.

Regardless of the decisions concerning the above referred to legislation, there remains one problem so vital that Congress dare not eliminate the same from its deliberations. That is, the question of how to provide against a sudden breakdown in the machinery which is providing the means of existence for perhaps 20,000,000 human beings who are to-day dependent upon relief monies for their existence.

That there has been a pronounced increase in the activities of the business world must be admitted by any observing and reasonable person. However, it must be equally obvious that this increase is primarily due to the spending power developed as a result of the dissemination of monies distributed through the various relief agencies. The discontinuance of the source of supply would unquestionably result in unthinkable conditions. The Federal government must continue to furnish the means of existence for millions of American citizens. This granted, the question resolves itself into "How shall the result be accomplished?"

Perhaps there are those in high official place who will advocate continuing or, at best, slightly modifying the present machinery. The socially obsessed are as illogical, and uncompromising, as were their predecessors, the financial sophists. The incompatability of cause and effect, so apparent to all who place public above selfish considerations, influences but little, and then only with extenuations, the attitude of those who consider self-perpetuation indispensable to the general welfare.

However difficult to swallow, the exponents and directors of present work relief programs cannot refute the contention that the number of persons on federal payrolls continues undiminished and that the return of millions to private industry has not been accomplished; nor is there any evidence that it will be effected.

One benefit resulting from the relief program must not be lost sight of. That is, a demonstration of the theory that distribution is inseparable from any economic philosophy applicable to modern society. Though the incomes of those cared for by work or other relief agencies have been so small as to be far below desirable American standards, they have been distributed throughout the country and amongst many persons. The result has been a widespread increase in the demand for necessities and in general purchasing power. Political economy must recognize that supply and demand are associated only insofar as distribution relates them.

Assuming that the people of the United States either do not desire, or are not ready for (as you will) paternalism, and keeping in mind the necessity for reducing financial dependence upon federal government and for increased distribution of the nation's finances, there arises the question: how can these objectives be accomplished?

Admitting there may be several ways of achieving the desired result, is it not reasonable to propose that the national government substitute contract work for relief work, and at the same time effect the same through, and by granting aid to, the normal, federal, state, county and municipal agencies created by law for such purposes. This would place millions of relief workers on contractors', instead of on federal, payrolls, would open the channels for non-governmental activities and would eliminate the waste and confusion resulting from amateur W. P. A. attempts to perform public improvements.

It has been contended that the W. P. A. provides employment for more persons than would contract work. There are those who question this. If it be so, the differential is small and, in the opinion of competent persons, amounts to less than 20%. The difference in results cannot be compared any more than could the efficiency of laborers assigned to conduct a financial institution parallel that of trained experts.

The contractors, engineers and architects of this country will merit public condemnation if they continue to maintain silence in the face of impending legislation. Though the return may be entirely incommensurate with the services they may render, it is their common duty to present a united appeal in behalf of the American people. Such is in no measure a criticism or an approval of any administration or of any party. It is but the authoritative voice of experience raised in the interest of the nation which has afforded each of them more opportunity than any other on earth. In the name of common sense and duty let there be a conference to which each will contribute and from which concrete unselfish recommendations may come forth.

A MANAGED CURRENCY

Five Years Afford Sweden A Test of Money Management Which Merits American Attention

By
HANS R. L. COHRSSEN
(Courtesy of The American Swedish Monthly)

LESS than five hundred persons are on the dole in Sweden, fewer than during the prosperous period of 1928 and 1929. The total of registered unemployed was 43,000 when I visited Sweden last August, and of these about 30,000 had jobs on public works. Only about 13,000 men therefore lacked work. And since August, economic conditions have continued to improve.

While America's industrial production is still about 26 per cent below the 1929 peak, Sweden's is 10 per cent above it, and the Swedes are looking forward to enjoying an estimated surplus revenue of 22,400,000 kronor, due to the greatly increased revenue from prosperous business. And so, Sweden is celebrating complete recovery with factories running full blast and her workers employed to capacity; in fact, she is better off than in 1929.

How has she done it? I was trying to compliment the Swedish economists, and politicians in responsible positions, whom I had occasion to meet, on their splendid accomplishments. But modestly they would say, "We have not done anything. Things just happened." True, a series of favorable circumstances have helped much, and they were beyond control. Nor has there been much in the way of deliberate planning, at least in the beginning, to overcome the depression. But just the same, the Swedes may rightfully claim as much credit for having conquered the depression, as for having avoided war during the past hundred years and for possessing some of the most progressive social legislation, a high standard of living, and probably the highest standard of popular education on social and economic problems of any people in the world.

One of the outstanding economists told me that if anything, credit must be given to the good luck of Sweden. "Good luck" certainly did play an important part, particularly if the increased world demand for Swedish products and the consequent high prices are considered good luck. Yet, America is endowed with far greater natural wealth. America is largely independent of the rest of the world, she can clothe and feed herself and produce almost everything for the highest standard of living of any country. America is financially more independent than any other country. Still, natural wealth and independence have proved inadequate to lift America out of the depression. Instead of such advantages, the Swedes have acquired in years of serious study an insight into economic developments that has led them to the correct solution of their difficulties.

In thus giving credit to the correct and progressive thinking of Sweden on economic problems, it must be extended first of all to her teachers, and among them in particular to two great men that are counted among the world's outstanding economists, Professor Knut Wicksell and Professor Gustav Cassel. Wicksell is sometimes even called the father of the present Swedish monetary policy, for as early as 1898 he was advocating the policy that the Bank of Sweden actually adopted in 1931. For the past thirty years he and Cassel have been fighting persistently to obtain recognition of the very principles of monetary policy that for the past four years have been employed not only by Sweden but by all the sterling bloc nations, comprising about one-third of the world, which have recovered most from the depression.

The essence of these monetary principles is that money should be constant in what it buys. That is, a dollar should always buy the same average market basket of goods. When the buying power of the dollar changes, your market basket of goods becomes either smaller or larger; you owe more or less, if you translate your debt into goods. Changing dollars upset the calculations of every business man, makes it impossible for budgets to be kept and changes every contract in which money appears. When the dollar becomes cheap as compared with the market basket of goods, then prices rise, and the employee that gets the same number of dollars in his payroll can not buy his normal amount of goods with them. But profits for the business man rise, speculation sets in, and the end is inflation. Then comes the crash—inevitably. The dollar becomes dear, prices of things fall. The market basket gets bigger, but the profits of the business man disappear when his income falls with falling prices, and he has to dismiss his employees. So the wage earner, instead of getting more for his dollar, loses his job and has no dollars at all to spend. There are bankruptcies, foreclosures—this is depression.

Generally people do not know that the dollar changes, because these changes in buying power are difficult to measure. The only way to measure them is by observing how the average of the prices of all goods changes and that can be done by watching the price index. Unfortunately, most people when they see the prices of goods going up or down never think that it is the money that changes. They think that the trouble is with the goods.

Wicksell and Cassel have shown that so long as your money is stable in gold, as it is under the old-fashioned gold standard, it can not be stable in buying power over goods, because the buying power of gold over goods is subject to changes. In order to have a money of stable buying power it is necessary that either changes in the value of gold can be prevented, or that money is "managed" independently of gold. It

is clear that the value of gold can be kept stable only when all nations cooperate for that purpose. But Wicksell and Cassel have rendered an outstanding service not only to the Swedish people, but to society as a whole in pointing out that a single country may keep its own money stable, independent of gold, by managing it according to an index number that represents the buying power of the money.

It makes little difference whether you speak with a Swedish banker, politician, business man, or economist, they all agree on these simple fundamental principles: a gold currency is not stable in buying power over goods; this instability is an important cause of booms and depressions; the value of money must be measured not in gold, but in what it buys; the buying power of money is expressed in an index of prices; a country can "manage" its money according to such an index number and thus keep it stable in buying power.

In almost every other country the question of money is one of politics and individual interests. In Sweden the money problem is a scientific problem, and it is being attacked with the same rational, scientific attitude that a problem of chemistry or physics receives. One is amazed at the freedom from emotion, superstition, and prejudice, with which the man in the street talks about monetary problems. There is little, if any, belief in the supposed virtues of gold currency and the dangers of inflation with a managed paper currency, beliefs that have dominated monetary discussions in America during the past years.

The men that guide the Swedish monetary policy are in particular free from such beliefs. In Holland, France, and Switzerland, the countries still deepest in the depression, the heads of the central banks had told me that they remained on gold because there was no "better" currency. An outstanding Swede would never say such a thing. Ernest Wigforss, the Minister of Finance, is considered one of the most serious students of money. For years he has been an active member of the Parliament Banking Committee, and he is seen frequently taking part in public discussions of monetary and economic problems. In his present important position he is advised by several monetary economists, in particular Professors Bertil Ohlin and Gunnar Myrdal and Dr. Karin Kock. Governor Rooth of the Bank of Sweden is equally well informed on the subject. His advisers have been chiefly Professor Eli Heckscher who, in September, 1931, formulated the new monetary policy of the Bank of Sweden, and Professor Erik Lindahl, who devised the Bank of Sweden consumption index according to which the krona is being "managed." In short, the great influence of the monetary economists over the thinking of the Swedish people has eventually found expression in a progressive monetary policy. Let us see what this progressive policy consists of.

Sweden did not feel the depression until late in 1930. Until then the inflow of foreign flight capital had kept the money market liquid and prevented the Bank of Sweden from pursuing a depression policy of restricting credit, such as had already taken effect in other countries. When in the summer of 1931 the flight capital began to leave Sweden again, the Bank of Sweden found itself with depleted reserves, and the danger of being driven off gold grew from day to day. The Bank made desperate efforts to stay on gold. An attempt was even made to obtain a loan from America for that purpose. But our American bankers had lost confidence, and they left the Swedes to their fate—although today this refusal is considered another instance of Swedish "good luck." For, in this manner Sweden was driven off gold sooner and saved the agonies of prolonged deflation and of a huge debt to America. On September 21st, 1931, England left the gold standard, and one week later Sweden followed.

Upon abandoning gold, the board of governors of the Bank of Sweden suggested to the Minister of Finance that in place of gold stability the central bank should henceforth attempt to maintain the buying power of the krona, in the hands of the consumers. This announcement reassured those that were afraid of inflation. At the same time the Bank of Sweden began constructing a special consumption price index in order to be able to measure the purchasing power of the krona. In this manner it gave a meaning to its intention of keeping a stable krona.

Soon it became evident that there was no danger of inflation, but that there was a real danger of continued depression. In January, 1932, the board of governors again demonstrated leadership in proclaiming that a rise in wholesale prices was needed in order to improve conditions. A few months later this view was confirmed by the parliament, and the central bank was asked specifically to engage upon an expansionist, or "reflationary" policy. At that moment the Kreuger crash occurred, and, although it is generally considered to have hurt Sweden, it actually helped in depressing the external value of the krona. Here again is an instance of "good luck"; for, this slight additional depreciation made it easier for the central bank to follow out an expansionist policy.

Conditions did not, however, improve much during 1932, partly because in spite of its good intentions to expand, the central bank was keeping its discount rates too high, and partly because a big strike in the woodpulp industry increased unemployment and reduced exports. In March, 1933, recovery set in, although there was a serious strike in the building industry. But international conditions had improved, increasing the demand for Swedish products; a liberal public works policy took men off the streets and increased the purchasing power of the people; and the easy money policy of the Bank of Sweden was taking effect in helping private industry to obtain cheap credit, re-employ workers, and restore normal production.

We may now better see what outstanding part the monetary policy has played in bringing back prosperity in Sweden.

The announcement in September, 1931, of the policy of a stable krona at once restored confidence.

The parliament in confirming the new policy and in emphasizing repeatedly the necessity of an expansionist credit policy and higher wholesale prices, strengthened the central bank in carrying out its policy of easy money.

Without these explicit directions by the parliament it would not have been possible for the central bank to take sole responsibility for its aggressive policy.

These directions, in particular, enabled the central bank to keep the krona slightly undervalued, forcing it to acquire large sums of foreign money in order to keep the krona low. The accumulation of large sums of gold and foreign exchange tended to increase the credit base at home. In other words, keeping the krona

(*Continued on page* 25)

BUREAU OF REGISTRATION

Certificates of Qualification Granted

National Council Issues Bulletin

Outlining Aims and Services

Revised as Of November, 1935

Purpose and Administration

THE National Bureau of Engineering Registration is operated as a function of the National Council of State Boards of Engineering Examiners, with an Advisory Board of representatives from seven national engineering societies. It was established primarily for the convenience of engineers, especially those practicing in more than one state, to minimize the effort and expense of securing legal registration. The Bureau also constitutes a clearing house for the convenience of the registration authorities of the various states having laws regulating the practice of professional engineering and acts as a reliable source of verified information regarding the professional records of engineers.

The Certificates of Qualification issued by the Bureau are in no sense obligatory for the applicant seeking registration in a state nor binding upon the State Boards of Registration, nor does the Bureau assume any responsibility to the applicant for securing his legal registration authorizing the practice of engineering in any state. The Constitution of the National Council and the registration laws of some states specifically provided, however, for the acceptance of Certificates issued by the National Bureau of Engineering Registration.

The following is quoted from the Constitution and By-Laws of the National Council:

"Section 6. *Committee on National Bureau of Engineering Registration.* A National Bureau of Engineering Registration shall be conducted under the direction of the Committee on National Bureau of Engineering Registration. This committee shall consist of seven members selected as follows: One member designated for each of the four zones into which the country is divided, one member designated by the Council's Committee on Uniform Examinations, one member designated by the Council's Committee on Engineers' Council for Professional Development, and the Executive Secretary or his duly accredited representative. The members of the Committee, excepting the Executive Secretary, shall be active members of a State Examining Board. Two of those members shall be appointed for a term of one year, two for a term of two years, and two for a term of three years, and at the expiration of these terms, two members shall be appointed annually for a term of three years. Five (5) members of the Committee shall constitute a quorum and a favorable vote of four of those present shall be required for favorable action on any question. When the words 'Registration Bureau' are used it shall mean the Committee on National Bureau of Engineering Registration. The Registration Bureau shall be assisted in its work by an Advisory Board of representatives appointed by national engineering societies or associations which may be invited by the Council to participate.

"The Bureau Committee shall adopt forms, rules, regulations, and fees for the Registration Bureau. The Registration Bureau shall investigate and verify the professional records of engineers and issue Certificates of Qualification to engineers who comply with its requirements, provided the approval of each applicant is concurred in by the State Board of Registration in the state of which he is a resident. An applicant who is a resident of a state in which a registration law is in effect shall be legally registered in that state, and shall file application for Certificate of Qualification with the State Board of that state, on forms prescribed by the Registration Bureau. If the application is approved by the said State Board, it shall be then submitted to the Registration Bureau with copies of all records pertaining to the applicant. The Certificates of Qualification shall be issued by the Registration Bureau in the name of the National Council of State Boards of Engineering Examiners and shall be signed by the Executive Secretary. These certificates shall be available as evidence of qualification for registration as a professional engineer with State Boards of Registration, for membership in national and state engineering societies, in connection with the award of professional degrees by engineering schools, for presentation to clients when soliciting contracts for professional services, for presentation to employers when applying for positions and for similar purposes.

"No reciprocal registration certificates shall hereafter be issued in the name of the National Council of State Boards of Engineering Examiners except by the National Bureau of Engineering Registration, but nothing herein shall be interpreted as in any way abridging the right of any State Board to practice reciprocal registration with any other State Board.

"Whenever legally possible and in the absence of disqualifying evidence, Member Boards are expected to give due consideration to, recognize, or accept as competent evidence of qualification, the Certificates of Qualification when submitted in support of applications for registration, or as reciprocal endorsement when submitted by applicants who are registered with some other Member Board, or as the equivalent of reciprocal registration certificates or cards issued by Member Boards, or as prima facie evidence of qualification in lieu of examination."

The Committee on National Bureau of Engineering Registration is as follows:

Ralph J. Reed, Chairman, Representing Committee on Examinations, California (1938).

Virgil M. Palmer, Representing Committee on E. C. P. D., New York (1937).

G. M. Butler, Representing Western Zone, Arizona (1937).

Perry T. Ford, Representing Central Zone, Ohio (1936).

N. W. Dougherty, Representing Southern Zone, Tennessee (1936).

E. W. Saunders, Representing Northeast Zone, Virginia (1938).

T. Keith Legaré, Executive Secretary, South Carolina.

The national engineering societies are cooperating with the National Council, assisting in the development of the usefulness and efficiency of the Bureau, through an Advisory Board on which the following representatives have been appointed:

American Society of Civil Engineers, George T. Seabury; American Society of Mechanical Engineers, James H. Herron; American Institute of Electrical Engineers, Walter I. Slitcher; American Institute of Chemical Engineers, J. C. Olsen; Society for Promotion of Engineering Education, R. I. Rees; American Railway Engineering Association, R. E. Warden; American Association of Engineers, C. J. Ullrich.

Requirements for Certificates of Qualification

A Certificate of Qualification will be issued only to an applicant who fully complies with any one of the following requirements for a Professional Engineer and who conforms with other regulations of the Bureau:

(*a*) Graduation from an approved course in engineering of four years or more in a school or college approved by the Bureau as of satisfactory standing; and a specific record of an additional four years or more of active practice in engineering work of a character satisfactory to the Bureau, such active practice must indicate that the applicant is competent to be placed in responsible charge of important engineering work; or

(*b*) Successfully passing a written, or written and oral examination designed to show knowledge and skill approximating that attained through graduation from an approved four-year course; and a specific record of eight years or more of active practice in engineering work of a character satisfactory to the Bureau, such active practice must indicate that the applicant is competent to be placed in responsible charge of important engineering work; or

(*c*) A specific record of twelve years or more of active practice in engineering work of a character satisfactory to the Bureau, which indicates that the applicant is qualified to design or to supervise construction of engineering works and has had responsible charge of important engineering work for at least five years, provided applicant is not less than thirty-five years of age.

In passing upon the professional record and experience of an applicant the Bureau will construe "professional engineer" or "active practice in engineering work" as follows:

The term "Professional Engineer" shall mean a person who, by reason of his knowledge of mathematics, the physical sciences, and the principles of engineering, acquired by professional education and practical experience, is qualified to engage in engineering as hereinafter defined.

The practice of professional engineering includes any professional service, such as consultation, investigation, evaluation, planning, designing, or responsible supervision of construction or operation, in connection with any public or private utilities, structures, buildings, machines, equipment, processes, works, or projects, wherein the public welfare or the safeguarding of life, health, or property is concerned or involved, when such professional service requires the application of engineering principles and data.

The mere execution, as a Contractor, of work designed by a Professional Engineer or the supervision of the construction of such work as a foreman or superintendent shall not be deemed to be active practice in engineering work.

Fees and Applications

The charges for services of the Registration Bureau are as follows:

The fee for investigating and verifying the professional record of an engineer is $10.00, which fee must accompany application and will be retained by the Registration Bureau regardless of whether the results of the investigation warrant the issuance of a Certificate of Qualification or not.

When an application for a Certificate of Qualification is approved, the applicant will be so notified by the Bureau and upon payment by him of an additional fee of $3.00 the Bureau will furnish the applicant with a photostatic copy of his verified record, including Certificate of Qualification. Additional photostatic copies of verified professional records will be furnished at $3.00 each or two for $5.00. These certified copies can be sent direct by the Registration Bureau to State Boards or other parties designated.

An applicant whose status is classified under provision "*b*" of the requirements for a Certificate of Qualification, who has not passed an engineering examination satisfactory to the Registration Bureau, will be notified to this effect and, if desired by him, the State Board of Registration or Examiners in the State of which applicant is a resident will conduct the examination in accordance with standards approved by the Registration Bureau, the cost of such examination to be paid by the applicant.

An investigation such as that conducted by the Bureau often requires considerable time. It is, therefore suggested that an engineer should not wait until he actually needs a Certificate of Qualification. He should, in fact, file his application with the Bureau as early as convenient so that certified copies of the professional record may be available for presentation to State Boards of Registration with which he desires registration or for other appropriate purposes.

Information secured from references is for the confidential use of the Bureau in verifying and passing upon professional records of applicants, and the source and character of this information will not be divulged except in special cases when desired by legally authorized State Boards of Registration.

Applications for Certificates of Qualification must be made on forms prescribed by the Bureau. When applicant is a resident of a state in which a registration law is in effect, the application must be filed with the Secretary of the State Board of Registration or Examiners in that State. When the applicant is a resident of a State not having a registration law for engineers, the application must be filed with the National Bureau of Engineering Registration, P. O. Drawer 1404, Columbia, S. C.

ARCHITECTS CERTIFICATES

National Council of Registration Boards Issues Bulletin of Information Concerning Certification by Council

THE COUNCIL

1. Under the Constitution of the United States there can be no national registration in any profession, the authority to register or license citizens to practice a given profession being vested in the several States.

2. The great majority of the States now have laws for the registration of architects. Registration in one State does not qualify an architect to practice in another State, for standards or requirements differ.

3. The National Council of Architectural Registration Boards is an organization made up of, and controlled by the architectural registration authorities of the several States. It is the national quasi-official authority recognized by The American Institute of Architects as qualified to establish a proper standard examination.

4. The requirements for a Standard N. C. A. R. B. Examination are intended to include everything required by any and all of the States; and the standard in every subject is intended to be the highest set by any State.

5. After an architect has successfully complied with the Examination Procedure outlined below, the Council certifies that he has proved qualification for practice and, on request, furnishes its certified data to State registration authorities, recommending that he be granted registration, without further examination, on the basis of evidence submitted and his State examination in accordance with Council standards.

6. The National Council facilitates registration in any State for the holders of its Certificate. While the National Council has no legal competence to guarantee registration in any State to an architect who holds its Certificate, its approval of an applicant is usually accepted in any State, as all State registration authorities are joined together in the Council in establishing the Council's requirements and standards.

7. The National Council, upon the request of a Certificate holder, recommends him for registration in any State without further formality than payment of the Council fee and the State fees.

Examination Procedure

8. The National Council does not itself conduct any examinations. It does, however, request the State examining boards to examine the Candidate for a National Council Certificate in such manner and in such subjects as are necessary to fulfill the Council requirements for the Standard N. C. A. R. B. Examination.

9. The National Council requires all applicants for a Standard N. C. A. R. B. Examination to enroll in writing. It forwards to each applicant an application blank or questionnaire concerning qualifications. If the applicant's qualifications are found to be satisfactory, the National Council accepts him as a Candidate for the Examination for the Certificate.

10. Candidates are divided into two categories:

(*a*) The Senior, *i. e.*, architects who have been in practice as principals ten years or more;

(*b*) The Junior, the men who have been in practice for a shorter period.

11. The requirements for the Senior and Junior Examinations are stated in Circulars of Advice Nos. 17 and 16, respectively, and in detail in Circular of Advice No. 3.

12. The examination of Senior and Junior Candidates is completed when the State examining board authorized to conduct the examination has reported the results to the Council.

13. The National Council of Architectural Registration Boards bases its decision on the Candidate's fitness for practice on his training, his character, his record in practice, and his standing in the examination as reported by his examiners.

14. Finding that the Candidate meets the above requirements, the Council issues its Certificate declaring the holder to have passed the Standard N. C. A. R. B. Examination.

Other Council Activities

15. The Council renders various services, stated in brief as follows:

(*a*) Gives advice concerning essential training and experience prerequisite to admission to a Standard N. C. A. R. B. Examination.

(*b*) Approves and records Mentors and maintains advisory contact with them.

(*c*) Collates and verifies records of preparation for and attainment in architectural practice.

(*d*) Serves architects who are not holders of the Council Certificate but who are engaged in inter-State practice by assisting them in the proper presentation of their credentials for registration in the various States.

(*e*) Exercises a unifying influence over examination and registration procedure in the several States.

(*f*) Acts as a clearing house for matters of interest and importance to State registration authorities, including legal decisions affecting professional registration, examination subject matter, and administrative problems.

(*g*) Maintains a file of all registration laws and application forms in use in each State.

16. The National Council of Architectural Registration Boards, which is an Illinois corporation organized not for profit, was founded in 1920. It has since that time developed its procedure, which is recognized by

the architectural profession and schools and by The American Institute of Architects as sound and in the interest of the Profession.

THE MENTOR

1. The Mentor is a member of the architectural profession qualified by experience and training to guide the Candidate for architectural practice during the period of his preparation or candidacy for a Standard Examination of the National Council of Architectural Registration Boards.

2. The Mentor acts as adviser to the Candidate. Such an obligation can be properly discharged only by those members of the profession who have a genuine interest in assisting their younger fellows to a proper understanding of their high responsibilities as professional men. The discharge of this obligation need not be either burdensome or technically difficult.

3. Circular of Advice No. 14 "Concerning the Council" outlines the purposes and functions of the National Council of Architectural Registration Boards.

4. Circular of Advice No. 16 "Concerning the Standard N. C. A. R. B. Junior Examination" explains the Council's procedure after enrolling an applicant as a Candidate for examination and states the type and scope of the examination.

5. Circular of Advice No. 3 gives the details concerning the examination.

6. All of these Circulars are available on application to the National Council of Architectural Registration Boards.

7. The Circulars establish a certain procedure:

(*a*) The Council calls upon the applicant to nominate a Mentor. In the choice of a Mentor the Candidate may, if he wishes, turn for guidance to the Committee on Education of the Chapter of the A. I. A. in whose territory he lives, or request advice directly of the National Council.

(*b*) If the architect nominated as Mentor is satisfactory to the Council and records his willingness to act as Mentor to the applicant, the Council so advises the latter and his period of Candidacy begins.

Note: In determining the fitness of persons to act as Mentors, the Council expects to have recourse to the advice of local architectural organization and committees therefrom.

(*c*) From then on, the relationship between the Mentor and the Candidate depends largely upon the personalities of these individuals. It is the responsibility of the Mentor to guide the Candidate in his final preparation for practice. It is not essential that the Candidate be in the office of his Mentor. The Candidate may even reside and be employed in a different city from that of his Mentor. But the relationship must be such as to permit the Mentor to fulfill his responsibilities to both the Council and the Candidate.

(*d*) The Mentor is informed, by Circular No. 3, of the details of the examination for which the Candidate is preparing. It is in no sense the Mentor's province to examine the Candidate. On the other hand, the Mentor must exercise a general supervision over the Candidate's methods of study and the use of his time during the period of Candidacy, as the Council does not permit a Candidate to present himself for a Standard N.C.A.R.B. Junior Examination until the Mentor certifies that, in his judgment, the Candidate is properly prepared.

(*e*) The Mentor therefore sees to it that at some time during his Candidacy the Candidate is employed in each of the several functions of an architect in the execution of real building problems, viz: preparation of preliminary studies, general drawings, specifications, and details; and supervision of work in process of construction.

8. It is assumed that the period of Candidacy last at least three years. It is possible that in special cases and for special reasons this period may be less, but it is more likely to be longer. This, however, is determined by the Council on the advice of the Mentor.

9. In offering this statement concerning the duties of the Mentor, the National Council of Architectural Registration Boards, recognizing the full responsibility of the Mentor toward the Candidates under his guidance, stresses the fact that this very responsibility makes the Mentor's position one of honor in the profession today and of great influence on the profession of the future.

10. The fee of the National Council for enrolling an applicant for a Mentor is Five Dollars ($5.00), payable Three Dollars ($3.00) at the time of enrollment, One Dollar ($1.00) at the end of the first year of the Period of Candidacy, and One Dollar ($1.00) at the end of the second year.

SENIOR EXAMINATION

1. The Senior Examination is for the convenience of the older, more experienced practicing architect who desires to acquire the privileges conferred by the Certificate of the National Council of Architectural Registration Boards.

2. The Certificate of the National Council of Architectural Registration Boards, as hereinafter explained, facilitates obtaining the right to practice, through the securing of registration, in any State of the Union as nearly as this can be done under the Constitution.

3. Architects to be eligible for admission to the Standard N. C. A. R. B. Senior Examination must have been legally engaged in the professional practice of architecture as a principal for a period of ten or more years, and must have met the minimum educational requirements prescribed by the Council. They are grouped as follows:

(*a*) Architects who have been registered with the legal right to practice in their State of residence through exemption from examination by virtue of having been engaged in professional practice at the time the architectural registration law went into effect.

(*b*) Architects engaged in professional practice in States without registration laws.

(*c*) Architects who, registered by examination in any one State, desire to secure registration for the practice of architecture on a standard sufficiently high to be acceptable in all States as a basis of registration without further examination.

4. The procedure which the National Council of Architectural Registration Boards has adopted to determine eligibility for a Standard N. C. A. R. B. Senior Examination is as follows:

(*a*) The applicant is required to apply to the Council on his own professional letterhead stating his intention to present himself for a Standard N. C. A. R. B. Senior Examination. This application should include a brief statement concerning his formal education, years of employment in architects' offices, the date of

opening and location of his first and subsequent offices for independent practice, and a list of the State architectural registrations which he may have obtained, with the date and character of each registration—whether by exemption, or by written or oral examination.

(*b*) From this information the Council secretary tentatively determines whether the applicant has the required educational background and the essential experience in the practice of architecture to entitle him to the Senior classification.

(*c*) If he is considered to be eligible, the Council asks the applicant to pay the Standard Examination fee of $25.00, and sends him an information blank or questionnaire covering his professional training and record in practice.

(*d*) The applicant is required to prepare three pages of photographic illustrations showing the scope and character of his executed work, which exhibit becomes a part of his permanent record in the Council office.

(*e*) A record is prepared by the Council in the usual manner by verifying all statements contained in the information blank, and supplementing it with the photographic exhibit.

(*f*) From this data, and all other available information concerning the applicant, the Council secretary tentatively determines whether the applicant is, in his opinion, eligible for a Standard N. C. A. R. B. Senior Examination, and if so, names him a Candidate for the examination.

(*g*) In case of dissent from the opinion of the secretary, the Candidate may appeal to the executive committee of the Council.

(*h*) The Council secretary undertakes to arrange a time and place where the Candidate may be given a hearing before the examining board of his State of residence (or if none such exist, then by the examining board of a convenient neighboring State) to whom the Council, through its secretary, has delegated authority to conduct such hearing.

(*i*) The final authority to admit to the examination, or to reject a Candidate for a Standard N. C. A. R. B. Examination rests with the examining body.

5. The Standard N. C. A. R. B. Examination of a Senior Candidate is briefly described as follows:

Division I—General Culture, Technical Training and Ethical Standing, which consists of examining and rating the material contained in the Council record as described under (*e*) above, divided:

(*a*) General Culture ..... 100 points
(*b*) Technical Training ..... 100 points
(*c*) Professional relationships and record in practice ..... 100 points

Required 225 points (of possible 300).

Note: No one may be admitted to a Standard N. C. A. R. B. Examination who has not secured a satisfactory Council record.

Division II — Ability as Evidenced by Executed Architectural Work.

Time—One-half hour.

Required 225 points (of possible 300).

Under this Division the Candidate submits plans, specifications, and photographs of executed work. He is questioned concerning the reasons for, and the underlying principles involved in the work submitted for the purpose of establishing his competency and his authorship or direction of the work.

Division III—Formal Discussion of Some Architectural Subject before the examining body.

Time—One-half hour.

Required 300 points (of possible 400).

Under this Division the examining body is required to give the Candidate a careful hearing during which he is expected to discuss, analytically and without notes, the preliminary research, the conclusion reached, and his idea of the solution of some important architectural problem to which he has given special study. The subject of this discussion is to be illustrated by drawings made by him or under his direction. It may be executed work, work which is being studied for execution, or simply the result of the Candidate's research along certain lines of architectural development. This Division of the examination is intended to weigh the real professional merit of the Candidate as a man of appropriate natural endowment, adequate educational preparation, and extensive experience in practice.

6. Passing grade for the entire examination is 750 points (of the possible 1000), with no Division grading falling below its passing requirement.

7. Final percentage is determined by adding together the points made on each of Divisions *I, II,* and *III,* and dividing by ten.

8. Upon receipt from the examining body of its properly authenticated report concerning the examination and the rating of the Candidate, the Council secretary binds a copy of this report into the permanent record of the Council. If the Candidate has made passing grades in all subjects and Divisions, the Council secretary certifies that the Candidate has successfully passed the Standard N. C. A. R. B. Senior Examination in the State in which he was examined, and recommends him to all State examining boards as worthy of registration.

9. In the case of a Candidate for admission to The American Institute of Architects, the Board of Examiners of the Institute may exempt from the submission of exhibits the holder of a Certificate of the National Council of Architectural Registration Boards.

JUNIOR EXAMINATION

1. The Junior Examination is for the convenience of those students of architecture and for those younger practitioners, not falling under the Senior classification, who desire to acquire the privilege conferred by the Certificate of the National Council of Architectural Registration Boards.

2. The Certificate of the National Council of Architectural Registration Boards, as hereinafter explained, facilitates obtaining the right to practice, through the securing of registration, in any State of the Union as nearly as this can be done under the Constitution.

3. Persons eligible for admission to a Standard N. C. A. R. B. Junior Examination must be graduates of accredited architectural schools, or the equivalent thereof; must have had not less than three years of practical training in the offices of practising architects of acknowledged standing; and must have had less than ten years of independent practice as principals in the profession of architecture. They are grouped as follows:

Group A—Graduates of accredited colleges of architecture who will be required to serve three years of declared candidacy in architects' offices under the guid-

(*Continued on page* 24)

THE DESIGNATION ENGINEER

Its Use as A Professional Title

Intended as a Means of Recognition Has Public As Well As Professional Value

By
D. B. STEINMAN

PERMIT me, as the originator of the suggestion to use the designation "Engineer" or the abbreviation "Engr." before the name of the practitioner, to present some of the considerations that prompted it. For any new idea, initial resistance is to be expected; but I am convinced that there is enough justification for this proposal to make the effort worth while.

The first underlying thought is our campaign against the confusing use and abuse of the designation "Engineer" by others than members of our profession. The proposal under consideration is only part of a larger program to develop and strengthen, in the public mind, an exclusive association of the designation "Engineer" with the membership of our profession. The individual engineer has invested many years of his life in professional education and training in order to qualify as an "Engineer." The profession is investing decades of united effort to win public recognition and esteem for those who bear the title "Engineer." All of this investment is largely nullified if we do not stake out our claim to the designation "Engineer" and endeavor to establish for it an exclusive professional connotation.

A second motivating thought is that we cannot expect the public to hold the designation "Engineer" in high esteem unless we ourselves show that we are proud of it. We must show that we value this distinguishing designation as other learned and honored professions jealously prize and protect their professional appellations.

A physician is proud of his designation "Dr." It is invariably used in referring to him and in addressing him and, without self-consciousness, he applies it to himself. When he answers the telephone, he says "This is Dr. ————." He uses the designation when he registers at a hotel and on other occasions, and he is accustomed to the extra touch of deference and courtesy when he is thus identified as a member of an honored, learned and distinctive profession. The medical profession is jealous of this professional designation, and is vigilant in guarding it against unauthorized use. It is a violation of the Medical Practice Laws for men unlicensed thereunder to use the designation "Dr."; an exemption is regretfully made for those who have had the degree or title of "Doctor" legally conferred on them in other fields.

The New York State law governing the practice of medicine provides that it shall be unlawful for any person unlicensed thereunder to "use the title doctor or any abbreviation thereof in connection with his name or any trade name . . . . unless duly authorized *by law* to use the same."

The New York State law governing the practice of dentistry imposes penalties of fine or imprisonment upon any person who "shall prefix to his name the title doctor or any abbreviation thereof, not having had duly conferred upon him by diploma from some college, school or *board of examiners* legally empowered to confer the same, the right to assume said titles." Moreover the law confers upon any licentiate thereunder (with or without college degrees) the right to "use the prefix to his name of doctor or Dr."

The New York State Penal Law, governing the practice of the legal profession, provides that: "It shall be unlawful for any person to assume, use or advertise the title of lawyer, or attorney and counselor-at-law, or attorney-at-law, or counselor-at-law, or attorney, or counselor, or attorney and counselor, or equivalent terms in any language . . . . without having first been duly and regularly licensed and admitted to practice law in the courts of record of this state."

In my letter initiating the proposal under discussion, addressed to Engr. Arthur V. Sheridan and published in the July issue of the AMERICAN ENGINEER, I stated:

"Although such procedure cannot be protected by copyright, it can be established by custom and usage with such restrictive protection as is afforded by the state registration laws.

"Members of the medical profession are invariably addressed as Doctor or Dr. Members of the legal profession are frequently addressed as Counselor, and no others may be so addressed.

"In practically all European and Latin-American countries, law and custom have firmly established the invariable usage of prefixing the restricted title Ingr. or Ing. to the names of qualified members of the engineering profession. These are abbreviations of such words as Ingenieur or Ingeniero, and the English equivalent is Engineer, abbreviated Engr.

"The use of such distinctive professional designation has a definite value in emphasizing the professional standing of the individual and the fact that, by study and training, he has attained full professional status. It also has a definite advertising value for the profession by connoting exclusiveness or delimitation through the high qualification standards of a learned and honorable profession.

"American usage and custom furnish plenty of precedents for the use of prefatory designations substituted for the commonplace prefix of Mr. Besides such professional designations as Dr. and Counselor, we observe such titles as Senator, Congressman, and Governor, for men in public office, and such designations as General and Colonel for men of military rank.

"In the official personnel of our National Society of Professional Engineers, we have men with such varying titles as Colonel, Major, Senator, Dean, Professor, and Dr. The effort to keep these titles straight in communications and reports leads to difficulties and occasional embarrassment. The use of the designation Engineer, uniformly applied, will be far more convenient and significant.

"Before such custom can become widespread, someone has to make a start. The National Society of Professional Engineers is the logical body to inaugurate this usage.

"That the prefatory designation Engineer will be naturally and easily adopted is indicated by the fact that it has already been so used in newspaper headlines. I recently sent you a clipping from a Washington, D. C. newspaper, displaying such headlines.

"I shall be glad if you can find space for this communication in the AMERICAN ENGINEER in order that these thoughts may be brought before the entire membership. I am sending copies of this letter to Engineers Battin, Kelly, Conlon, Babbitt, Gelineau, and Ford, so that we may have the benefit of their comments and advice."

I do not take exception to the thought that there are other, more important, means of attaining public recognition for our profession. I fully recognize the importance of public education concerning the profession, of raising the standards of qualification and service, and of participation in community interests. All of these things are included in the program and activities of the National Society of Professional Engineers and its constituent State Societies and County Chapters. But any such program to increase public respect for "Engineers" is incomplete or partly nullified if that term is not impressed upon the public as the distinctive designation of our profession instead of being left to indiscriminate application and connotation.

The question has been asked "Just who is it within the field of construction that is to be distinguished by the title 'Engineer'"? The answer is obvious—only the "Engineer." Our proposal (and it seems strange that it should need to be defended) is that only members of the engineering profession should be designated as "Engineers."

Formerly there was no way of defining the engineering profession—of "establishing a clear-cut line of demarkation to distinguish the engineer from the non-engineer." Now, following the precedents of other learned professions, engineers' registration laws have been enacted in 35 of our 48 states, covering over 90% of the engineering population of this country. These registration laws supply the long-needed solution of our problem. In the 30 or more states having comprehensive registration laws for Engineers, no individual is an Engineer, or a member of the engineering profession, unless he is registered under the law. The prerequisites for such registration include qualifications of moral character, evidence of completion of academic and professional education, an additional number of years of training in apprenticeship on engineering work, and the passing of professional examinations.

The mere possession of a degree does not make a man an Engineer or a member of the engineering profession any more than it makes him a member of the medical or legal profession.

Membership in a voluntary engineering society does not confer professional status any more than does membership in a medical or legal society. On the contrary, a man must be legally admitted to professional status by licensure before he is eligible for membership in the Medical Society or Bar Association.

Achievement or prominence in the fields of research or business does not make a man a "Physician" or an "Attorney"—or an "Engineer"—unless he has been legally admitted to such profession.

Our registration laws, regretfully, contain some exemptions whereunder non-engineers are legally permitted under certain conditions to do work of an engineering nature. Such exemptions, however, do not make these individuals "Engineers."

I fully appreciate your text: "By their works ye shall know them." As you say, "a few engineers will be known by the great monuments they have helped to build." That thought is sufficient under a profession's attitude of "every man for himself." It was that attitude that selfishly resisted the engineers' registration movement in its earlier years. The engineer who has reached the top does not need registration laws nor other professional programs to help him. He is not personally concerned in the use or misuse of the designation of our profession. The profession, however, has now come to a realization of the value of organized effort for the benefit of all—for the advancement of the profession as a whole in public service and in public recognition. If such collective effort for the advancement of the standards and the standing of the profession is to be dismissed as "selfish," then we may at once disband much of the organized activity of our profession.

The establishment of "Engineer" or "Engr." as a distinctive designation may appear comparatively unimportant, but it should be conceived as a part of a larger and more significant program. Other honored professions in this country and the engineering profession in many other countries do consider their professional appellations important enough to prize and protect and to establish high qualification standards for admission to the professional distinction.

It will, of course, take time to get accustomed to the idea and to overcome initial self-consciousness. A good start has been made, in correspondence, meetings, conventions, and newspaper publicity. No one is required to follow the suggestion unless he desires to do so; but I, for one, am proud to be addressed by my friends and fellow-engineers as—Engr. D. B. Steinman, President, National Society of Professional Engineers.

THE ENGINEERING PROFESSION

History and Conditions in Canada

Need for Active Dominion Council

Reviewed at Annual Meeting
of
Association of Professional Engineers of British Columbia
By
P. M. SANDER

The Profession in Canada—History, Conditions and Activities

THE term "Civil Engineer" originally embraced all engineering other than "Military Engineering," and although by the year 1887, the year in which the Canadian Society of Civil Engineers was incorporated, the profession had split into several branches, such as Mining, Mechanical, Electrical, etc.; the Society was open to all civil engineers, in the original and wider meaning of the term. The membership, however, was largely composed of civil engineers in the narrower sense, possibly because this interpretation had come into more common usage.

In 1898, the Canadian Institute of Mining and Metallurgy was incorporated and the mining engineers, in the main, joined this organization instead of the Canadian Society of Civil Engineers.

These organizations did not control the practice of engineering in any way and really only served as educational organizations. The membership of the Canadian Society of Civil Engineers being composed mostly of men who were practising civil engineering in the narrower sense of the term, most of its papers and publications dealt with that phase of engineering and those who were practising other branches of engineering gave allegiance elsewhere, mostly to the American Society of Mechanical Engineers, the American Institute of Electrical Engineers and the Canadian Institute of Mining and Metallurgy, in order to get the benefits of technical papers, discussions and publications which dealt directly with their branch of engineering. Thus, there was a long period when the tendency was for the Engineering Profession to gradually split up into the various branches, and this tendency increased as more branches came into being, such as Highway Engineering, Automobile Engineering and Radio Engineering.

Realizing that this splitting up of the profession was not conducive to strength, the Canadian Society of Civil Engineers, in 1918, changed its name to the Engineering Institute of Canada, in the hope that it would then be able to embrace all branches of the profession. The hope was, however, only partially realized since, by that time, the Canadian Institute of Mining and Metallurgy had built up a strong organization and many members of the other branches of engineering belonged to, and were getting valuable literature from outside organizations.

Gradually a feeling grew up that the Profession of Engineering required some legal foundation on which to build a homogeneous whole, and the Engineering Institute of Canada sponsored a move in this direction. Under the British North America Act, any legislation had to be Provincial. A model Act was therefore prepared, and in 1920 the Provincial Associations of Professional Engineers were formed and attempts were made to have a model Act passed in each Province. The results were not uniform, some of the Associations obtaining strong Acts, and others weak ones. Nevertheless, the Professional movement grew; but still there was no unity in the Profession, perhaps even less than before, because there had been brought into existence eight Provincial Associations in addition to the other organizations.

It was realized that this continual subdividing of the profession would finally result in utter chaos, and in 1924 a move was instigated to try to get amalgamation between the Professional Associations and the Engineering Institute of Canada. A great deal of work was done with this end in view in order to try to harmonize the views of the various Associations and of the E.I.C., and in 1931 the eight Provincial Associations appointed representatives, four men who had authority to represent the eight Associations, and who were known as the "Committee of Four." This Committee met and made a report which was submitted to all the Associations, and the result was the formation of "The Committee of Eight," which consisted of one representative from each Provincial Association. It is significant that each member of the "Committee of Eight" was a member of the Engineering Institute of Canada, as well as of the Provincial Association which he represented. The Committee of Eight met early in 1933, and in turn submitted a report to each Provincial Association proposing that a Dominion Council of Professional Engineers be formed. In due course this was done and the Dominion Council of Engineering came into being, its objective as recommended by the Committee of Eight, being "The co-ordination of activities of Provincial Associations of Professional Engineers and by co-operation of other bodies, work towards the co-ordination of other activities of the engineering profession in Canada." The personnel of the Dominion Council was also composed of men who are members of the E.I.C. as well as members of their respective Provincial Associations.

The necessary training and the practice of engineering, teach engineers that efficiency is a necessity for continued existence. The organization of the profession, however, shows very little sign of any such efficiency as the individual practising engineer requires for the everyday problems of his profession, and while it is clear that since 1918 there has been a steady effort to achieve more unity for the engineering profession of Canada, the results have so far been meagre. Efforts

have been made along several lines, and unquestionably a definite decision must be made as to the ultimate objective, and the method of advance towards that objective, in order to avoid waste effort. Before deciding upon what is practical, it is necessary to briefly scan the positions of the three major engineering organizations in Canada, and get a clear idea of their activities, their objectives and their accomplishments.

First—The Engineering Institute of Canada

There are 2,627 Corporate members resident in Canada. In addition, there are 300 Corporate members resident in other parts of the world, seven honorary members, 316 juniors, 806 students and 35 affiliates, making a total membership in all grades of 4,091.

The aims and objects as set forth in the By-laws of the Institute are as follows:

(*a*) To develop and maintain high standards in the Engineering Profession.

(*b*) To facilitate the acquirement and the interchange of professional knowledge among its members.

(*c*) To advance the professional, the social and the economic welfare of its members.

(*d*) To enhance the usefulness of the profession to the public.

(*e*) To collaborate with universities and other educational institutions in the advancement of engineering education.

(*f*) To promote intercourse between engineers and members of allied professions.

(*g*) To co-operate with other technical societies for the advancement of mutual interests.

(*h*) To encourage original research, and the study, development and conservation of the natural resources of the Dominion.

These aims and objects are broad enough to cover nearly anything in connection with the engineering profession, and (*c*), (*d*) and (*g*) could easily be made to include the operation of the Professional Engineers if the British North America Act permitted. Nevertheless, it is more or less apparent that the main idea embodied in these aims and objects was that The Engineering Institute of Canada should be an educative body with a very wide interpretation of the word "educative."

Second—The Canadian Institute of Mining and Metallurgy

The membership, not including student, corporation and corresponding members, is around 1,500.

The charter gives the following as the purposes of the Institute:

First.—To promote the arts and sciences connected with the economical production of valuable minerals and metals, by means of meetings for the reading and discussion of technical papers, and the subsequent distribution of such information as may be gained through the medium of publications.

Second.—The establishment of a central reference library and a headquarters for the purpose of this organization.

Third.—To take concerted action upon such matters as affect the mining and metallurgical industries of the Dominion of Canada.

Fourth.—To encourage and promote these industries by all lawful and honourable means.

It is clear that the main purpose of the Canadian Institute of Mining and Metallurgy differs from that of any other of our engineering organizations. The prime motive is the advancement of the industry, and it is mainly through the achievement of this motive that the mining engineer benefits. Because the Mining Institute represents an industry, its membership is not limited to qualified engineers, and while no figures are available it is doubtful if more than half the membership would be eligible for membership in the Engineering Institute of Canada, or in a Professional Association.

A prospective employer cannot therefore assume that because a person is a member of the Canadian Institute of Mining and Metallurgy he is, *ipso facto,* a qualified mining engineer, and such employers make inquiries from time to time, from the Professional Associations. Such engineers can only be responded to by giving the names of Association members who are registered in the mining branch, and for this reason it is unfortunate that in some of the provinces very few mining engineers are members of the Professional Associations. Obviously it is in the interests of the public that the mining engineers should belong to the Professional organizations, and it is also in the interests of the mining engineers themselves that they should support the Associations.

Third—The Provincial Professional Associations

The total membership of the eight Associations is approximately 4,170 full members (student membership of 630—total of 4,800) and the purpose of the Associations is to administer the Provincial Acts in the interests of both the engineering profession and the public.

Approximate figures of the membership of the various Provincial Associations are as follows:

	Full Members	*Students*
Alberta	270	100
British Columbia	830	530
Manitoba	200	
New Brunswick	138	
Nova Scotia	202	
Ontario	1,227	
Quebec	1,216	
Saskatchewan	88	
	4,170	630
Total		4,800

Mr. de Hart estimates that there are approximately 2,500 members of the Professional Associations who do not belong to the E.I.C., and conversely there will be nearly 1,500 members of the E.I.C. who do not belong to any Provincial Associations. There are, therefore, roughly 4,000 men who are members of only one or other of these two organizations.

In addition to the Professional Associations, the Engineering Institute of Canada, the Canadian Institute of Mining and Metallurgy and the Dominion Council of Engineering, there are branches of some of the American Societies and Institutes in Canada, such as the American Society of Mechanical Engineers, The American Institute of Electrical Engineers, The Society of Automotive Engineers, The Institute of Radio Engineers, the American Society of Steel Treating and The American Waterworks Association.

Owing to the fact that the number of engineers in Canada practising in many of these branches of engineering is too small for the successful formation of

separate Canadian Societies, the inception of branches of American organizations has been inevitable. In any scheme of co-ordination, however, the most important bodies are the previously mentioned Canadian organizations, although provision should be made for all other engineering bodies also.

Let us see what is the set-up for the other professions in Canada.

The legal profession has its Provincial Law Society in each Province and the Canadian Bar Association. Under the auspices of the Canadian Bar Association there has been organized a "Conference of Governing Bodies of the Legal Profession in Canada," which holds annual meetings and deals with matters of common interest to the governing bodies of the profession in the several provinces. By this means the Canadian Bar Association fosters harmonious relations and co-operation among the various governing bodies. This conference is the national executive for the profession. It is constantly endeavoring to encourage and maintain a high standard of legal education, training and ethics.

One of the aims of the Canadian Bar Association which appeals to me is a "United Canada." Their President, Mr. Pitblado, K.C., in an address at their meeting in Winnipeg in August last, said in part, "This aim of a United Canada must always be one of our objects, and is, I believe, just as necessary today as it ever was—perhaps more so. We should frown upon sectionalism and sectarianism and petty provincial jealousies, and all join hands in the common purpose of building up a greater and better Canada." Should this not be one of our aims, also?

Permit me also to refer to an address at the same meeting by the Honourable R. L. Maitland, K.C., of Vancouver, whose subject was "Maintaining the Professions."

"Need of more co-operation between the learned professions was stressed by Mr. Maitland. "The field of the lawyer as well as the other professions," he said, "had been unfairly invaded with the worst kind of quackery, with the professional men unable to check the unfair and unhealthy competition.

"Something should be done," he declared, "by professional men to maintain their professions free from all unfair interference and unethical, untrained, and in many cases, unscrupulous competition.

"Every profession should be able in the field in which that profession undertakes to serve, to carry out that service without any invasion whatsoever.

"The public," he said, "knows very little about medicine and law, architecture, engineering and dentistry, and I sometimes think that if the public knew the story of these professions in Canada—knew more about the great leaders in medicine, our judges, the leaders of the bar—the accomplishments of our great engineers and the combination of beauty and strength and utility which has resulted from the work of our architects—there would be a greater desire to give that protection to the professions which should be theirs as a right.

"Powers of discipline vested in every profession in Canada has not been used to the extent that it should," Mr. Maitland declared, "with the result that the public had reached wrong conclusions, and respect and confidence had been largely lost. Nothing more is necessary," he said, "than swift and sure discipline for unworthy members, with removal if necessary of those who cannot adhere to ethical standards.

"Professional men from all over Canada should unite," he added, "to obtain legislation that would ensure fair play. Co-operation of some 30,000 men occupying high standing in every community in Canada would lend strength to any representations made in any parliament," he declared, "and a council of professions with sub-divisions in every province would have sufficient influence to see that fair play was assured."

Generally speaking, a lawyer who is registered in any Provincial Law Society can become registered in the Law Society of another Province by simply passing an examination in the statutes of the Province where he wishes to register.

The Land Surveyors have Provincial Associations and a Dominion Association. A Land Surveyor who is registered in the Dominion Association can qualify to register in a Provincial Association by passing an examination in certain statutes. (British Columbia and possibly one other Province is exempted from this statement.)

The Medical Profession has its college of Physicians and Surgeons in each Province and the Canadian Medical Council. The Canadian Medical Council has a register as well as the Provincial Associations and registration in the Canadian register entitles the doctor to register and practise in any Province in Canada.

The Dental Profession has its Associations in each Province and a Dominion Dental Council. A certificate of qualifications of the Dominion Dental Council entitles the holder to a license to practise dentistry in any Province in Canada where the Provincial Association has representatives on the Dominion Dental Council.

The Chartered Accountants have their Institutes of Chartered Accountants in each province and a Dominion Association of Chartered Accountants. Each Provincial Institute is a unit in the Dominion Association and membership in any of the Provincial Institutes carries with it membership in the Dominion Association and a portion of the annual fee collected by the Provincial organization is passed on to the Dominion Association. All members receive copies of the year book of the Dominion Association which contains copies of the Acts of Incorporation, the By-laws, Lists of Members and other data for each Provincial organization as well as the Dominion Association.

Consideration of all the facts can only lead to one conclusion, and that is that the activities of the various engineering bodies are in dire need of co-ordination, to attain which there must be some one body at the head of engineering affairs throughout the Dominion. Such a body must have the support of all the various organizations, it must be able to define the different spheres of activity, and it should be able to speak for all engineers in Canada.

There are, theoretically, two ways in which this can be accomplished. One is by amalgamating all the various organizations until there is only one, and the other is by placing some one body at the head to co-ordinate the activities of the component parts of the profession.

One very real difficulty in the way of amalgamation, even between the Engineering Institute and the Professional Associations, is the fact that there are about four thousand men who at present pay dues only to one or other of the two organizations. Doubtless

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GROUP OF GUESTS AT ANNUAL MEETING

CONNECTICUT SOCIETY OF PROFESSIONAL ENGINEERS

Left to right (seated): Major T. W. Battin of Philadelphia, vice-president National Society; Harry E. Harris of Bridgeport, vice-president Connecticut Society; Willard S. Conlon of Stamford, president Connecticut Society; Dr. David Steinman of New York, president National Society; Attorney Charles E. Moore of Stamford. (Standing): Z. F. Cappabianca of Stamford, vice-president Connecticut Society; E. F. Fox of New York, treasurer New York Society; James R. MacIntyre of Fairfield, secretary Connecticut Society; E. J. Beugler of Cheshire, member Connecticut Examining Board; Joseph W. Cone of Greenwich, W. K. Simpson of Waterbury and Chester S. Wendell of Stamford, treasurer Connecticut Soci ty.

ITEMS OF GENERAL INTEREST

REPORTS, NEWS, COMMENTS

STATE ACTIVITIES

Correspondents and readers are invited to submit for publication items of interest to the professional engineer of the country. Such material should be forwarded as quickly as possible in order to keep news up to date.

CONNECTICUT

Society Holds Annual Meeting
State Board of Examiners Attends
Engineer Steinman Delivers Principal Address

From the press of Connecticut comes the following report of the Annual Convention of the Connecticut Society:

The Annual Convention of the Connecticut Society of Professional Engineers was held in the Hotel Davenport, Stamford on last Saturday afternoon and evening. Engr. Willard S. Conlon, the retiring president announced that he had been elected Secretary of the National Board at Washington.

Officers now serving until March election are: Engr. Harry E. Harris, president, Bridgeport; Engr. Z. F. Cappabianca, vice-president, Stamford; Engr. O. S. Wendell, treasurer, Stamford; Engr. Jas. R. MacIntyre, secretary, Stratford. The rest of the Board of Directors are Engr. B. L. Bilderbeck, New London; Engr. Claude T. Wilson, Waterbury; Engr. John W. Shallenberger, Bridgeport, and Elmer H. Beard, Stamford. Engr. John W. Shallenberger, as chairman of the Charter Revision Committee presented that committee's final report, which was unaminously accepted.

After the business meeting in the afternoon, an oyster and steak dinner was served in the large dining room. A number of very distinguished guests and speakers were present, including Engr. Edwin J. Beugler, Secretary of the State Board of Engineering Registration and Engr. Joseph W. Cone (Greenwich) and Engr. William K. Simpson, (Waterbury) also members of the State Board; Engr. D. B. Steinman, President of the National Society and Chairman of the N. Y. State Board of Engineering Examiners who was the principal speaker. Major Thomas S. Battin, President of the Pennsylvania Society and Vice-President of the National Society; Engr. E. F. Fox, Treasurer of the N. Y. State Society; Attorney Moore of Stamford, Engr. Senator Charles F. Rumpf, particularly prominent in regard to the Engineer's Registration Act and The Merritt Highway project. Engr. Steinman said in his address that it was the duty of each professional engineer to work for the public recognition of engineering as an honorable profession of the highest rank, second to none, and for the public and political recognition of the engineer as a member of such a profession. He recounted how this had been accomplished for themselves during comparatively recent years by the legal and medical professions, through their local, state and national professional organizations. He reported in detail on the amazing growth of the Professional Societies throughout the country and the voluntary changing over of already existing engineering

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NEW YORK

An Interesting Comment

The following editorial appeared in The New York Times of January 17th, 1936:

"WHEN THE LIGHTS GO OUT"

"A short circuit and fire in the Hell Gate power plant cripples subway trains at the peak of the traffic and plunges New York into darkness from Sixtieth Street to the Harlem River for some six hours. Similar accidents occur at rare intervals in central stations all over the country. If New York has hitherto been spared annoying interruptions in electrical service it is because it has been lucky and not because its central station organizations are more efficient than those of other communities.

"The incident carries with it a striking social lesson, particularly in a week when technical societies are celebrating the two hundredth anniversary of James Watt's birth. During most of the nineteenth century energy was generated individualistically by thousands of engines that were the lineal descendents of the first mine pump that WATT designed with a separate condenser. Now energy is produced in central stations and shot hither and thither over vast regions. Moreover, energy can be pooled. The New York Edison Company draws upon the electrical resources of its own stations and those of the Niagara Hudson Company. It is the modern mass character of energy that is driven home by New York's mishap. A short circuit—and the organic life of a great city is slackened for a few hours. Back we drift to the eighteenth century, to burn candles and to realize what we owe to the physicists and the engineers who have made energy collective and who transform the city into a blaze of light when the sun goes down.

"How utterly dependent we are on the engineers! They and the scientists hold us in the hollow of their hand. How many of them are there? A hundred thousand, a million—who knows? They constitute a new ruling class. Destroy them and the country would be laid low. Disease would decimate us, transportation would be impossible, telephone and telegraph would be silent, starvation would stalk in the cities, factories would stand idle. Technocracy? The term is in bad odor. But there are technocrats for all that—knights not of the sword but of energy. When the lights go out we become aware of our rulers."

CHAPTER NEWS

STEUBEN AREA

A joint dinner-meeting of the Steuben Area Chapter and the Ithaca Section of the American Society of Civil Engineers, held in December at Elmira, was attended by 75 members and guests. Major Hubert E. Snyder of the Ithaca Section

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CANADIAN COURT

Upholds Action of Association
In Refusing Membership

From the November issue of Pulp and Paper of Canada one learns that association membership and registration are closely interlocked in Canadian professional engineering recognition.

A Supreme Court decision affecting the engineering profession in Ontario has been rendered by Mr. Justice Kingstone, in dismissing a motion to compel the granting of a membership in the Ontario Association of Professional Engineers.

The case arose out of the predicament of an Ontario engineer, a non-member of the Provincial association, who moved to the United States and sought registration in that country. This was denied him unless he could show membership in the Ontario association or unless he abandoned his Canadian citizenship. Accordingly he applied for registration in the Ontario association. Membership had been open to him during his years of residence in Ontario but he had postponed application. When he applied in Ontario while a resident of the United States, his application was refused by reason of the restriction of membership in the Ontario association to residents of the Province.

The engineer took proceedings in the Supreme Court of Ontario to compel registration, contending that Section 12 of the Professional Engineers' Act did not require residence in Ontario. The court disagreed with him and dismissed his proceedings, holding that no engineer could acquire membership in the association unless he resided in Ontario at the time of his application.

ENGINEERING SCHOOL ENROLLMENTS 1935-1936

By

D. B. STEINMAN

The December 1935 issue of the Journal of Engineering Education presents an interesting tabulation of current engineering school enrollments prepared by Dr. F. L. Bishop, Secretary of the Society for the Promotion of Engineering Education.

One hundred and fifty institutions giving instruction in engineering were requested to furnish enrollment information, and one hundred and twenty-four replied.

The total engineering student enrollment in these 124 schools for the current academic year (1935-1936) is 66,541. Assuming the same average enrollment in the 26 schools that did not reply, the approximate current total enrollment in 150 engineering schools in this country is 80,500 (Compare this with the esti-

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CONNECTICUT

(*Continued from page* 19)

groups so that they could qualify as a "Professional" Chapters or Societies. He gave a complete report on the many important accomplishments of the National Society during the past year in Washington in behalf of the Profession of Engineering and stated that no other engineering society could show a record of even ten or more years that could equal it in terms of actual benefit to the profession.

Attorney Moore advised the engineers present that they had every moral right to keep the designation or appellation "Engineer" to themselves, and if they were professionally and politically organized as are the Doctors and Lawyers, they could have their just title to it legally protected in Connecticut, as it now is in some states at the present time, and that the answer was for every engineer to join his local Professional Chapter, and work for his own protection.

Engineer-Senator Rumpf gave a brief and interesting talk on the Merritt Highway. State Secretary James R. MacIntyre, who is also Chairman of the Membership Committee, and head of the groups organizing new chapters throughout the state, said that the membership had trebled since the first of the year, a gain of 200 per cent with a considerable number of applications still in the hands of the committees.

President Harry E. Harris stated that while all professional engineers were not so placed that they could take an active part and give voluntarily of their time, that they could certainly all join this group that was doing so much for each and every engineer and help by paying the small dues that are actually less than two thin dimes per week,—that he had spent his life with and among engineers and would not consider them in a class in anyway as "Hitch-Hikers" but felt that as a high type of men, each would gladly pay for their share of the gasoline necessary to get the professional buggy up the grade,—that he felt that every engineer realized that men like Steinman, Battin and Conlon who in their zeal for their profession and the advancement of their fellow-engineer have given extensively of their own time and money to carry the profession upward, should not be expected to continue to carry the load without the earnest support as evidenced by an increasing and active membership.

Engr. Harris also stated that the Professional Society was the only society to whom any credit belonged for the enactment of the Registration Law, that the most that any other engineering group did was to agree not to openly oppose the passage of the act,—that The Professional Society was and is the only society 100 per cent, whole-heartedly now in favor of registration and willing to support and cooperate with the Board of Registration as far as within its power.

The engineering profession is going places and is on its way, and before long will stand on a par, at least, with the Medical and Legal professions. The instrument that raised the status of the Medical Profession was their professional society, the American Medical Association, likewise, for the Legal Profession, the American Bar Association, and the one that is doing it for the Engineering Profession is the Society of Professional Engineers, in Chapter, State and National groups. It seems inconceivable to me that any qualified engineer should neglect affiliating with his local chapter. No doctor or lawyer neglects membership in his professional society. The engineer must be equally militant.

INFORMATION CIRCULAR
RULES AND REGULATIONS

(*Continued from the Dec.*, 1935 *issue*)

Rule 9—Certificate of Registration and Registration Card

The Board will issue to each successful applicant a Certificate of Registration and a Card certifying that the applicant holds a Certificate of Registration. Each Certificate shall be numbered in the order in which applications are approved by the Board and shall be signed by the Board.

Any person registered under this Act and doing business with the public on his own account or as chief executive or as consultant shall keep his Certificate of Registration posted conspicuously in his place of business where the public can readily examine said Certificate.

In the event a Certificate of Registration or Card indicating Registration is lost, destroyed or mutilated, a duplicate will be issued upon payment of the fee indicated in Rule 5, and submission of a statement explaining the loss or destruction of the original document.

Rule 10—Registration Seals

Each registrant, upon notification of registration, will be authorized to obtain an official seal of a size and design prescribed by the Board. The seal shall be applied to all plans, maps, surveys, sketches, drawings, specifications and documents pertaining to any project submitted by the registrant to his client.

Where drawings or documents are bound together, the application of the seal on one sheet or page shall be considered sufficient.

Where a registrant is classified as a Professional Engineer and a Land Surveyor, two (2) seals are necessary.

Each registrant will be held responsible for the use of his seal by unauthorized persons.

Rule 11—Renewals

All Certificates of Registration expire on December thirty-first (31st) following their issuance or renewal and unless renewed shall become invalid after that date, making practice illegal.

The Secretary of the Board shall notify each person registered under this Act of the date of expiration of his certificate and the amount of the fee required for its renewal, which notice shall be mailed not later than December first (1st) of each year. Renewal of a certificate may be effected at any time during the month of December upon payment of a fee of two dollars ($2.00). Upon payment of said fee the Secretary of the Board shall issue a card indicating renewal of registration.

Failure to renew a Certificate of Registration shall not deprive any registrant of the right of renewal, but the fee to be paid after December thirty-first (31st) shall be increased to Three Dollars ($3.00) and the name of the registrant may not be included in the January Roster.

CONNECTICUT PUBLIC ACTS OF 1935

CHAPTER 253

AN ACT CONCERNING THE PRACTICE OF PROFESSIONAL ENGINEERING AND LAND SURVEYING

Be it enacted by the Senate and House of Representatives in General Assembly convened:

SECTION 1. Board of registration. A state board of registration for professional engineers and land surveyors is created, whose duty it shall be to administer the provisions of this act. The board shall consist of five professional engineers, appointed by the governor. Each member of the board shall have been a resident of this state for at least ten years, shall have been engaged in the practice of the profession of engineering for at least ten years, and in responsible charge of important engineering work. The governor may remove any member of the board for misconduct, incompetence or neglect of duty. The members of the first board shall be appointed within ninety days after the passage of this act, to serve for one, two, three, four and five years, respectively; thereafter, all appointments shall be of registered professional engineers for a term of five years. Each member of the board first appointed hereunder shall receive a certificate of registration under this act from said board. The members of the board, other than the secretary, shall receive no compensation for their services, but shall be reimbursed for all actual traveling, incidental and clerical expenses necessarily incurred in carrying out the provisions of this act. The board shall hold a meeting within thirty days after its members are first appointed, and, thereafter, shall hold at least two regular meetings each year. The board shall elect or appoint, annually, from their members a chairman and a secretary. The secretary of the board shall keep a true and complete record of all proceedings of the board. On request of the secretary of the board, the comptroller shall provide a suitable room for its meetings. The board shall have power to make all necessary rules and regulations and by-laws, not inconsistent with this act. In carrying into effect the provisions of this act, the board may subpoena witnesses and compel their attendance and also may require the production of books, papers, and documents in any proceeding involving the revocation of registration or practicing or offering to practice without registration. Any member of the board may administer oaths or affirmations to witnesses appearing before the board. If any person shall fail to appear in response to such process, or, if, having appeared in obedience thereto, he shall refuse to answer any pertinent questions put to him by any member of said board or its counsel, he shall, upon presentation of such facts to the superior court, be subjected to such fines and penalties as might be imposed by said court should such failure or refusal have occurred in any civil action pending in said court.

SEC. 2. Receipts and disbursements. Roster of registrants. The secretary of the board shall receive and account for all moneys derived under the provisions of this act, and shall pay the same monthly to the state treasurer, who shall keep such moneys in a separate fund to be known as the "Professional Engineers' Fund." Such fund shall be continued

from year to year. All moneys in the "Professional Engineers' Fund" are specifically appropriated for the use of the board. The secretary of the board shall receive a nominal salary recommended by the board and approved by the state board of finance and control in addition to expenses incurred as provided for in section one. Subject to the approval of the board of finance and control, the board may employ such clerical or other assistants as are necessary and may make expenditures of this fund for any purpose which, in the opinion of the board, is reasonably necessary for the proper performance of its duties. Under no circumstances, shall the total amount of warrants issued by the state auditor in payment of the expenses and compensation provided for in this act exceed the total amount of the examination, registration and renewal fees collected as herein provided. Annually, as of September thirtieth, the board shall submit to the governor a report of its transactions of the preceding year, and shall also transmit to him a complete statement of the receipts and expenditures of the board. The board shall keep a register of all applications for registration with the action of the board thereon. A roster showing the names and places of business of all registrants shall be prepared by the board during the month of January of each year. Copies of this roster shall be mailed to each registrant and placed on file with the secretary of the state and with the town clerk of each town.

SEC. 3. General requirements for registration. No person shall practice or offer to practice the profession of engineering in any of its branches, including land surveying, or use any title or description tending to convey the impression that he is a professional engineer or land surveyor unless he shall have been duly registered or exempted under the provisions of this act. The following shall be considered as minimum evidence satisfactory to the board that the applicant is qualified for registration as a professional engineer or land surveyor, respectively: (a) Professional engineer: Graduation from an approved course in engineering in a school or college approved by the board and either a specific record of an additional four years of active practice or passing an examination in engineering work of a character satisfactory to the board. (b) Land surveyor: Graduation from an approved course in surveying in a school or college approved by the board and either a specific record of an additional two years of active practice or passing an examination in land surveying work of a character satisfactory to the board. (c) In lieu of graduation from an approved school or college, successfully passing a written or written and oral examination prescribed by the board and a specific record of eight years of active practice of professional engineering, or six years of land surveying, of a character satisfactory to the board. (d) At any time within five years after this act becomes effective, the board may accept as evidence, in lieu of a prescribed examination, that the applicant is qualified for registration as a professional engineer or land surveyor, a specific record of ten years or more of lawful practice in engineering work, or eight years of land surveying work, respectively, of a character satisfactory to the board and provided, at least five years of this active practice shall have been in responsible charge of important work. In considering the qualifications of applicants, responsible charge of engineering teaching may be construed as responsible charge of engineering work.

SEC. 4. Examinations. A candidate failing on examination may apply for re-examination at the expiration of six months and will be re-examined without payment of additional fee. Subsequent examination will be granted upon payment of a fee to be determined by the board.

SEC. 5. Certificates and seals. The board shall issue a certificate of registration, upon payment of a registration fee as provided for in this act, to any applicant who, in the opinion of the board, has satisfactorily met all the requirements of this act. The issuance of a certificate of registration by this board shall be evidence that the person named therein is entitled to all the rights and privileges of a registered professional engineer, or of a registered land surveyor, while such certificate shall remain unrevoked or unexpired. Nothing in this act shall be construed as permitting a person registered only as a land surveyor to practice any other branch of the profession of engineering nor as permitting a registered professional engineer to practice land surveying unless he shall be a holder of a valid combined certificate of registration as professional engineer and land surveyor. The board shall have authority to make rules and regulations pertaining to the design and use of seals by registrants under this act.

SEC. 6. Practitioners at time act becomes effective. At any time within one year after this act shall become effective, upon application therefor and the payment of the registration fees specified in section seven, the board shall issue a certificate of registration, without oral or written examination, to any professional engineer or land surveyor who shall submit under oath evidence satisfactory to the board that he is of good character, has been a resident of the state for at least one year immediately preceding the date of his application and was practicing professional engineering if an engineer, or land surveying if a land surveyor, at the time this act became effective, and has had responsible charge of work of a character satisfactory to the board. After this act shall have been in effect one year, the board shall issue certificates of registration only as provided for in section three or section eleven.

SEC. 7. Applications and registration fees. Applications for registration shall be on forms prescribed and furnished by the board. The registration fee for a professional engineer shall be fifteen dollars, five dollars of which shall accompany the application, the remaining ten dollars to be paid upon issuance of the certificate. The registration fee for a land surveyor shall be ten dollars, five dollars of which shall accompany the application, the remaining five dollars to be paid upon issuance of the certificate. The registration fee for a combined certificate of professional engineer and land surveyor shall be twenty dollars, ten dollars of which shall accompany the application, the remaining ten dollars to be paid upon issuance of the certificate. Should the board refuse to issue a certificate of registration to any applicant, the initial fee deposited shall be retained as an application fee.

SEC. 8. Expirations and renewals. Certificates of registration shall expire on the last day of December following their issuance or renewal and shall become invalid on that date unless renewed. The secretary of the board shall notify each person registered under this act of the date of the expiration of his certificate and the amount of the fee that shall be required for its renewal for one year, which notice shall be mailed not later than December first of each year. Renewal of a certificate may be effected at any time during the month of December by the payment of a fee of two dollars. Failure to renew such certificate as required above shall not deprive any registrant of the right of renewal, but such renewal may be effected only upon such terms and conditions as the board shall determine.

SEC. 9. Exemption. The following named persons shall be exempt from the provisions of this act: (a) An employee or a subordinate of a person holding a certificate of registration under this act, or an employee of a person exempted from registration by class (d) or (e) of this section, provided the practice of such employee shall not include responsible charge of design or supervision; (b) officers and employees of any public utility corporation whose operations are under the jurisdiction of the public utilities commission, or any manufacturing corporation, while engaged in the performance of their employment by such corporation; (c) officers and employees of the government of the United States while engaged within this state in the practice of the profession of engineering or land surveying for said government; (d) a non-resident of this state, having no established place of business in this state, practicing or offering to practice herein the profession of engineering or land surveying, when such practice shall not exceed in the aggregate more than thirty days in any calendar year, provided such person shall be legally qualified by registration to practice said profession in his own state or country in which the requirements and qualifications for obtaining a certificate of registration are not lower than those specified in this act; (e) a person resident in this state but whose arrival in the state is recent, provided such person shall have filed an application for a certificate of registration as an engineer or land surveyor and shall have paid the required fee therefor.

SEC. 10. Revocations and re-issuances of certicates. The board shall have the power to revoke any certificate of registration, after thirty days' notice of, and hearing on, such revocation, if it shall be shown that the certificate was obtained through fraud or misrepresentation; if the holder of the certificate shall have been found guilty by the board, or by a court of competent jurisdiction, of any fraud, deceit, gross negligence, incompetency or misconduct in his professional practice. Appeal from the decisions of the board concerning the issuance or the revocation of registration under the provisions of this act may be taken to the superior court of Hartford county. The board, for reasons it may deem sufficient, may re-issue a certificate of registration to any person whose certificate has been revoked. A new certificate of registration to replace any certificate revoked, lost,

destroyed or mutilated may be issued, subject to the rules of the board, and a charge of two dollars shall be made for such issuance.

SEC. 11. Reciprocity. The board may, upon application therefor, and the payment of a fee of ten dollars, issue a certificate of registration as a professional engineer, or as a land surveyor, or a combined certificate of professional engineer and land surveyor, to any person who holds a certificate of qualification or registration issued to him by proper authority of any state or territory or possession of the United States, or any country, or the national bureau of engineering registration, provided the requirements for the registration of professional engineers or land surveyors under which such certificate of qualifications or registration was issued shall not conflict with the provisions of this act and shall be of a standard not lower than that specified in section three of this act.

SEC. 12. Violations and penalties. Any person who shall knowingly or wilfully violate any provision of this act shall be fined not more than five hundred dollars or be imprisoned not more than three months or both. The secretary of the board shall aid in the enforcement of this act. This act shall not apply to architects registered under the provisions of chapter 167a of the 1933 supplement to the general statutes, in the performance of work incidental to their profession.

Approved June 13, 1935.

NEW YORK

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and Michael W. Wipfler of the Steuben Area acted as co-chairmen.

The principal speakers were: Frank M. Bolton, President of the Cayuga Rock Salt Co., L. J. Ettinger, Jr., and Dr. C. D. Looker, of the International Salt Co.

The following officers and directors have been elected to serve the Steuben Area Chapter: President, Herman F. Eilers of Corning; Vice-President, J. Harry Adolph of Hornell; Secretary-Treasurer, A. C. Jordan of Elmira; Directors for three years, C. H. Dibble of Corning and H. E. Snyder of Elmira.

RENSSELAER COUNTY

At the December meeting of the Rensselaer County Chapter unanimously elected the following officers for 1936: President, James A. Waddell, East Greenbush; Vice-President, Edward J. Kilcawley, Troy; Secretary-Treasurer, Normond S. Holroyd, Troy.

An illustrated address was delivered by Mr. R. R. Zipprodt of the Portland Cement Association.

WESTCHESTER COUNTY

The recent death of Everett W. Smartwout, consulting mechanical engineer of White Plains, and a member of the Society since 1929 is reported with keen regret.

Notable interest is being evinced in the proposal to create a Westchester Water Authority for the establishment of an independent water supply system for the county; the Westchester County Chapter of Professional Engineers, the Architectural and Engineering Alliance of Westchester, the Westchester County Chamber of Commerce, Lions Club, Rotary Clubs, Parent-Teacher Associations are participating in this activity.

RICHMOND COUNTY

Richmond County Chapter advocates the formation of a city-wide zoning committee composed of two (2) members from each of the five chapters in the greater city. Consideration is also being given to a suggestion that the work of the Board of Standards and Appeals be transferred either to existing departments in the separate borough governments or to newly-created borough zoning commissions.

CHAUTAUQUA- CATTARAUGUS COUNTIES

Mr. C. Eugene Bentley, well-known and highly esteemed by this chapter and the members of the New York State Society generally, has conveyed the sad news of the recent death of David H. Merritt, also a member of the Chapter, who carried on the practice of his profession to within a few days of his death at the ripe old age of 87 years and 7 months. Mr. Merritt's death will be mourned by his professional associates in the Chapter and Society.

Mr. Bentley also advised that Mr. Charles G. Locke, another member of the Chapter who is over 85 years of age is still in active professional practice after more than 57 years of service; and surprisingly retains his youthful vigor. Mr. Locke captured the Cattaraugus-Chautauqua "old fiddlers" championship in 1926 and the large silver cup which was awarded to him on that occasion is one of his most treasured possessions.

BRONX COUNTY

At the January meeting of the Chapter, Mr. Harrison Blankstein, a member of the Chapter, delivered a report (developed in a popular vein) of the provisions which are being progressed for the disposal of the sewage of the county.

Engr. Alexander Haring, professor of bridge and railroad Engineering at New York University, has accepted the chairmanship of the committee studying the bridge or tunnel crossing of Long Island Sound between Ferry Point, Bronx, and Whitestone, Queens.

KENTUCKY

Registration Bill Introduced

The Kentucky Society of Professional Engineers is sponsoring registration legislation which has been presented to the General Assembly.

The proposed measure is printed herewith. It is hoped that engineers throughout the State will lend active support to the legislation.

AN ACT to regulate the practices of professional engineering; creating a State Board of Registration for Professional Engineers; defining its powers and duties; also imposing certain duties upon the state and political subdivisions thereof in connection with public work; and providing penalties.

Sec. 1. General Provisions—Be it enacted by the General Assembly of the State of Kentucky that in order to safeguard life, health and property, any person practicing or offering to practice the profession of engineering, shall hereafter be required to submit evidence that he is qualified so to practice and shall be registered as hereinafter provided; and it shall be unlawful for any person to practice or to offer to practice the profession of engineering in this state, or to use in connection with his name or otherwise assume, use, or advertise any title or description tending to convey the impression that he is a professional engineer, unless such person has been duly registered or exempted under the provisions of this act.

Sec. 2. Definitions—The term "professional engineer" as used in this act shall mean a person who, by reason of his knowledge of mathematics, the physical sciences, and the principles of engineering, acquired by professional education and practical experience, is qualified to engage in engineering practice.

The term "board" as used in this act shall mean the State Board of Registration for Professional Engineers, provided for by this act.

Sec. 3. State Board of Registration for Professional Engineers—Appointment of Members-Terms-A State Board of Registration for Professional Engineers is hereby created whose duty it shall be to administer the provisions of this act. The board shall consist of five professional engineers, as defined in Sec. 2, who shall be appointed by the Governor and who shall have the qualifications required by Section 4 of this act. The members of the first board shall be appointed within ninety days after the passage of this act, to serve for the following terms: One member for one year, one member for two years, one member for three years, one member for four years, and one member for five years, from the date of their appointment, or until their successors are duly appointed and qualified. Every member of the board shall receive a certificate of his appointment from the Governor and before beginning his term of office shall file with the Secretary of State his written oath or affirmation for the faithful discharge of his official duty. Each member of the board first appointed hereunder shall receive a certificate of registration under this act from said board. On the expiration of the term of any member, the Governor shall in the manner hereinbefore provided appoint for a term of five years a registered professional engineer, having the qualifications required by Section 4, to take the place of the member whose term on said board is about to expire. Each member shall hold office until the expiration of the term for which such member is appointed or until a successor shall have been appointed and shall have qualified.

Sec. 4. Qualifications of Members of Board—Each member of the board shall be a citizen of the United States and a resident of this state for at least five years, and shall have been engaged in the practice of the profession of engineering for at least twelve years, and shall have been in responsible charge of important engineering work for at least five years. Responsible charge of engineering teaching may be construed as responsible charge of important engineering work.

Sec. 5. Compensation and Expenses of Board Members—Each member of the board shall be reimbursed for all actual traveling, incidental, and clerical expenses necessarily incurred in carrying out the provisions of this act, but shall receive no other financial compensation.

Sec. 6. Removal of Members of Board-Vacancies—The Governor may remove any member of the board for misconduct, incompetency, neglect of duty, or for any other sufficient cause. Vacan-

cies in the membership of the board shall be filled for the unexpired term by appointment by the Governor as provided in Section 3.

Sec. 7. Organization and Meetings of the Board—The board shall hold a meeting within thirty days after its members are first appointed, and thereafter shall hold at least two regular meetings each year. Special meetings shall be held at such time as the by-laws of the board may provide. Notice of all meetings shall be given in such manner as the by-laws may provide. The board shall elect or appoint annually the following officers: A chairman, a vice chairman and a secretary. A quorum of the board shall consist of not less than three members.

Sec. 8. Powers of the Board—The board shall have the power to make all by-laws and rules, not inconsistent with the constitution and laws of this state, which may be reasonably necessary for the proper performance of its duties and the regulations of the proceedings before it. The board shall adopt and have an official seal.

In carrying into effect the provisions of this act, the board may, under the hand of its chairman and the seal of the board, subpoena witnesses and compel their attendance, and also may require the production of books, papers, documents, etc., in a case involving the revocation of registration or practicing or offering to practice without registration. Any member of the board may administer oaths or affirmations to witnesses appearing before the board. If any person shall refuse to obey any subpoena so issued, or shall refuse to testify or produce any books, papers, or documents, the board may present its petition to the circuit court held in Frankfort, Kentucky, setting forth the facts, and thereupon such circuit court shall, in a proper case, issue its subpoena to such person, requiring his attendance before such circuit court and there to testify or to produce such books, papers and documents, as may be deemed necessary and pertinent by the board. Any person failing or refusing to obey the subpoena or order of the said circuit court may be proceeded against in the same manner as for refusal to obey any other subpoena or order of the said circuit court.

Sec. 9. Receipts and Disbursements—The secretary of the board shall receive and account for all moneys derived under the provisions of this act, and shall pay the same monthly to the State Treasurer, who shall keep such moneys in separate fund to be known as the "Professional Engineers' Fund." Such fund shall be kept separate and apart from all other moneys in the treasury, and shall be paid out only by warrant of the State Auditor upon the State Treasurer, upon itemized vouchers, approved by the chairman and attested by the secretary of the board. All moneys in the "Professional Engineers' Fund" are hereby specifically appropriated for the use of the board. The secretary of the board shall give a surety bond to this state in such sum as the board may determine. The premium on said bond shall be regarded as a proper and necessary expense of the board, and shall be paid out of the "Professional Engineers' Fund." The secretary of the board shall receive such salary as the board shall determine in addition to the expenses provided for in Section 5. The board may employ such clerical or other assistants as are necessary for the proper performance of its work, and may make expenditures of this fund for any purpose which in the opinion of the board is reasonably necessary for the proper performance of its duties under this act, including the expenses of the board's delegates to annual convention of, and membership dues to, the National Council of State Boards of Engineering Examiners. Under no circumstances shall the total amount of warrants issued by the State Auditor in payment of the expenses and compensation provided for in this act exceed the amount of the examination and registration fees collected as herein provided.

Sec. 10. Records and Reports—The board shall keep a record of its proceedings and a register of all applications for registration, which register shall show (a) the name, age and residence of each applicant; (b) the date of the application; (c) the place of business of such applicant; (d) his educational and other qualifications; (e) whether or not an examination was required; (f) whether the applicant was rejected; (g) whether a certificate of registration was granted; (h) the date of the action of the board; and (i) such other information as may be deemed necessary by the board.

The records of the board shall be prima facie evidence of the proceedings of the board set forth therein, and a transcript thereof, duly certified by the Secretary of the board under seal, shall be admissible in evidence with the same force and effect as if the original were produced.

Annually, as of June 30, the board shall submit to the Governor a report of its transactions of the preceding year, and shall also transmit to him a complete statement of the receipts and expenditures of the Board, attested by affidavits of its Chairman and its Secretary.

Sec. 11. Roster of Registered Engineers—A roster showing the names and places of business of all registered professional engineers shall be prepared by the Secretary of the board during the month of July of each year, commencing one year from the date this law becomes effective. Copies of this roster shall be mailed to each person so registered, placed on file with the Secretary of State, and furnished to the public upon request.

Sec. 12. General Requirements for Registration—The following shall be considered as minimum evidence satisfactory to the board that the applicant is qualified for registration as a professional engineer, to-wit:

As a Professional Engineer:

a. Graduation from an approved course in engineering of four years or more in a school or college approved by the board as of satisfactory standing; and a specific record of an additional four years or more of active practice in engineering work of a character satisfactory to the board, and indicating that the applicant is competent to be placed in responsible charge of such work; or

b. Successfully passing a written, oral, or written and oral, examination designed to show knowledge and skill approximating that attained through graduation from an approved four year engineering course; and a specific record of eight years or more of active practice in engineering work of a character satisfactory to the board and indicating that the applicant is competent to be placed in responsible charge of such work.

At any time within three years after this Act becomes effective the board may accept as evidence that the applicant is qualified for registration as a professional engineer a specific record of twelve years or more of lawful active practice in engineering work of a character satisfactory to the board and indicating that the applicant is qualified to design or to supervise construction of engineering works and has had responsible charge of important engineering work for at least five years and provided applicant is not less than thirty-five years of age.

After this Act shall have been in effect three years, the board shall issue Certificates of Registration only to those applicants who meet the requirements of Section 12, (a) or (b), or Section 21.

Provided, that no person shall be eligible for registration as a professional engineer, who is not of good character and reputation.

In considering the qualifications of applicants, responsible charge of engineering teaching may be construed as responsible charge of engineering work. The satisfactory completion of each year of an approved course in engineering in a school or college approved by the board as of satisfactory standing, without graduation, shall be considered as equivalent to a year of active practice. Graduation in a course other than engineering from a college or university of recognized standing shall be considered as equivalent to two years of active practice; provided, however, that no applicant shall receive credit for more than four years of active practice because of educational qualifications. The mere execution, as a contractor, of work designed by a professional engineer, or the supervision of the construction of such work as a foreman or superintendent shall not be deemed to be active practice in engineering work.

Any person having the necessary qualifications prescribed in this Act to entitle him to registration shall be eligible for such registration though he may not be practicing his profession at the time of making his application.

Sec. 13. Applications and Registration Fees—Applications for registration shall be on forms prescribed and furnished by the board, shall contain statements made under oath, showing the applicant's education and detail summary of his technical work, and shall contain not less than five references, of whom three or more shall be professional engineers having personal knowledge of his engineering experience.

The registration fee for professional engineers shall be twenty dollars ($20.00), ten dollars ($10.00) of which shall accompany application, the remaining ten dollars ($10.00) to be paid upon issuance of certificate. When a Certificate of Qualification issued by the National Bureau of Engineering Registration is accepted as evidence of qualification, the total fee for registration as professional engineer shall be ten dollars ($10.00).

Sec. 14. Examinations—When examin-

ations are required, they shall be held at such times and place as the board shall determine. The scope of the examinations and the methods of procedure shall be prescribed by the board with special references to the applicant's ability to design and supervise engineering works, which shall insure the safety of life, health, and property. Examinations shall be given for the purpose of determining the qualifications of applicants for registration in professional engineering. A candidate failing on examination may apply for re-examination at the expiration of six months and will be re-examined without payment of additional fee. Subsequent examination will be granted upon payment of a fee to be determined by the board.

Sec. 15. Certificates, Sales—The board shall issue a certificate of registration upon payment of registration fee as provided for in this Act, to any applicant who, in the opinion of the board, has satisfactorily met all the requirements of this Act. In case of a registered engineer, the certificate shall authorize the practice of "professional engineering." Certificates of registration shall show the full name of the registrant, shall have a serial number, and shall be signed by the Chairman and the Secretary of the Board under seal of the Board.

The issuance of a certificate of registration by this board shall be evidence that the person named therein is entitled to all the rights and privileges of a registered professional engineer, while the said certificate remains unrevoked or unexpired.

Each registrant hereunder shall upon registration obtain a seal of the design authorized by the board, bearing the registrant's name and the legend, "Registered Professional Engineer." Plans, specifications, plats, and reports issued by a registrant shall be stamped with the said seal and when filed with public authorities, during the life of the registrant's certificate, but it shall be unlawful for any one to stamp or seal any documents with said seal after the certificate of the registrant named thereon has expired or has been revoked, unless said certificate shall have been renewed or reissued.

(*To be continued in February issue*)

THE ENGINEERING PROFESSION

(*Continued from page* 17)

the dues to an amalgamated body might be somewhat less than the sum of the separate dues, but certainly they would be higher than those of either separate body. These facts alone throw grave doubts on the wisdom of amalgamation at the present time.

On the other hand, unity in the profession can be obtained at very little cost and relatively easily by co-ordination, and Mr. de Hart suggests that the logical body to undertake this work is the Dominion Council of Engineering. In the first place it represents a larger number of engineers than any other one organization and the membership of the Associations includes engineers in every branch of the profession. In the second place, the Dominion Council is composed wholly of men who are members of the E.I.C. as well as of a Professional Association and in the third place, it was created mainly for the purpose of co-ordination. If this is accepted as correct, the Professional Associations should at once put the Dominion Council of Engineering on a firm foundation and an operating basis by agreeing on a constitution and providing the necessary funds so that an office and office equipment can be obtained and a permanent secretary appointed. The Dominion Council should also be authorized to expand so that representatives of other organizations, on an equitable arrangement as to numbers, can become part of the Council. This is a very important point in Mr. de Hart's proposal, as the Engineering Institute of Canada and the Canadian Institute of Mining and Metallurgy would be approached with a view to their appointing representatives to the Dominion Council of Engineering and later all other engineering organizations would also be invited to appoint representatives.

The proper way to finance the Dominion Council would be a per capita levy on all members of organizations which had representations on the Council, but at the start at least it would probably be necessary for the members of the Associations of Professional Engineers to carry the cost. If the cost were shared and if the Dominion Council received the full support of all the engineering organizations throughout the Dominion, the cost per capita would be very small. Members of Professional Associations would, of course, not be required to contribute through any other body to which they might belong.

So far, the Dominion Council of Engineering has not functioned. Your Council, realizing that nothing was being done, suggested that a meeting of Presidents and Secretaries of the Provincial Associations and the representatives on the Dominion Council be held in Montreal. The Alberta Association thinks this is a good suggestion and is prepared to participate in such a meeting. I believe that all of the difficulties standing in the way of co-ordination can be overcome at such a meeting. A constitution could be drawn up, a budget prepared, a Secretary selected and everything lined up to put the Dominion Council of Engineering into operation.

Should any of the other Engineering organizations wish eventually to amalgamate with the Dominion Council, there would be no difficulty in bringing this about at any later date.

It hardly seems necessary to point out the advantages of having a Dominion Council of Engineering at the head of all engineering affairs in the Dominion, or to enumerate the many duties which it could fulfill to the benefit of the engineering profession in Canada. In closing, however, it is perhaps well to enumerate some of them.

(1) To co-ordinate and unify the requirements of admission to the various engineering bodies in the Dominion.

(2) To define the sphere of each of its component parts so as to prevent overlapping and promote efficiency.

(3) To foster and effect any amalgamations which might be deemed advisable.

(4) To represent the whole of the engineering profession before the public, to look after judicious publicity and the general interests of the profession.

(5) To watch legislation affecting the profession and take action when considered advisable.

(6) To consolidate offices where possible with a view to economy.

(7) To look after the soliciting of advertising for the various publications, and to consolidate publications where it may be done to advantage.

It is but proper to acknowledge the active interest of the Alberta Association and the British Columbia Association in promoting these measures.

ENGINEERING SCHOOL ENROLLMENTS

(*Continued from page* 19)

mate of 76,000 engineering students for 1936 assumed in my tabulation published in the February 1935 issue of the American Engineer).

The total Freshman or first year engineering enrollment reported by 124 institutions is 20,128, not including evening students (indicated at 9 percent additional) which would bring this figure to 21,900. Correcting proportionately for the 26 schools not reporting, the total current first-year enrollment in 150 engineering schools is approximately 26,500. (My estimate in February 1935 was 27,000).

One hundred and six engineering schools reported a total of 8,847 first degrees conferred in 1934-1935. Assuming proportionate correction for the 44 schools not reporting, the total number of engineering students graduated last year is approximately 12,500. (My estimate a year ago was 10,000 or 11,000).

In my study of this subject which was captioned "Engineers and Unemployment" in the February 1935 issue of the American Engineer, I presented the following conclusion:

"To maintain a constant ratio of engineers to population, allowing for mortality and population growth, the engineering schools should graduate only 5,000 annually instead of the present rate of 10,000 or 11,000. The total number of engineering students should be 35,000 instead of 70,000, and the number admitted annually to the Freshman class should be 13,000 instead of 27,000."

ARCHITECTS CERTIFICATES

(*Continued from page* 12)

ance of an approved architectural Mentor. Before the Candidate is admitted to the Standard N.C.A.R.B. Junior Examination, the Mentor shall certify that, in his judgment, the Candidate has had at least the required minimum of practical experience.

Group B—Graduates of high schools or non-accredited colleges of architecture who can prove training, in other ways, which is equivalent to the required training in an accredited college of architecture, and who can prove employment in architects' offices for a period of nine years or more. Satisfactory completion of one year of the prescribed course in an accredited architectural college shall be accepted as the equivalent of one and one-half years of the required practical experience, but in no case shall such experience be reduced to less than three years.

Group C—Persons not high school graduates who can prove training, in other ways, the equivalent of high school and college graduation, and who can al-

so prove employment in architects' offices for a period of fifteen years or more.

4. The Period of Candidacy is a minimum of three years, if dated from the time of the Candidate's graduation from college. It may well be more, especially in the case of a Candidate, not a college graduate, whose education may need to be supplemented to meet the National Council's requirements for admission to the examination. In exceptional cases, as for example when a Candidate applies for examination some years after graduation from college, the Period of Candidacy may be less than three years. This Period of Candidacy is a most important factor in the Candidate's preparation for practice. During this period the Candidate will report frequently to and consult, as the need may arise, with his Mentor, for he may not present himself for the Standard N.C.A.R.B. Junior Examination until his Mentor has stated that he has fulfilled the requirements of the Council in the matter of diversified practical experience in an architect's office, under direction and guidance, as designer, draftsman, specification writer, clerk of the works or superintendent, spending such of his time in each of these branches as the Mentor determines to be desirable.

Note: The Council will use its discretion in admitting to examination those who have been unable to secure the guidance of a Mentor for the full three years' period mentioned, but no one shall be admitted who has not been employed in an architect's office for at least three years.

5. The procedure preliminary to enrollment as a Candidate for a Standard N. C.A.R.B. Junior Examination requires each applicant to apply to the Council by letter, enumerating briefly, with dates and locations the several steps in this formal education and practical experience. On the basis of this preliminary data, the Council office will advise the applicant as to further steps.

6. In general, the Candidate whose status seems to indicate at least the minimum of required education and experience for admission to the examination will be advised to pay the Council fee of $25.00 and to file, under oath, an Information concerning his preparation for practice, which will be verified by the Council. If the results of these investigations prove eligibility, the Council office will proceed with the arrangements for the examination, the details of which are completely set up in Circular of Advice No. 3.

The Candidates not immediately eligible for the examination will be enrolled and advised as to such further steps as are necessary toward the completion of their training, including the appointment of a Mentor. For this enrollment there is a nominal Council charge of $3.00, with a subsequent incidental fee of $1.00 at the beginning of the second and third years of the Mentorship period.

All persons under Group A are expected to enroll and arrange for a Mentor on or before graduation from college.

7. The examination to be conducted by the examining body is required to include scope of education, experience, and subject-matter essential to securing registration in the State in which the examination is conducted, plus the essential requirements of a Council examination, and may be briefly described as follows:

Division 1—*Qualifications and Preparation for Practice.* Required total of one hundred and fifty points of a possible two hundred, with no grade in any examination subject below sixty.

Examination A—Graded on information contained in the Council record and by personal audience.

Note: No one may be admitted to a Standard N.C.A.R.B. Examination who has not secured a satisfactory Council record.

Division 11—*Building Construction and Administration.* Required total of three hundred points of a possible four hundred, with no grade in any examination subject below sixty. Total time allowance of sixteen hours.

Examination B—The application of the Mechanics of Materials to the practical design of the structural parts of buildings, particularly wood, metal and masonry, not including concrete.

Time—4 hours.

Required 60 points (of possible 100).

Examination C—Architectural Practice and Supervision.

Time—4 hours.

Required 60 points (of possible 100).

Examination D—Reinforced Concrete and Fireproofing.

Time—4 hours.

Required 60 points (of possible 100).

Examination E—The application of the Science of Graphic Statics to the practical solution of a truss problem. An exercise in the detailing of truss joints and members.

Time—4 hours.

Required 60 points (of possible 100).

Division 3—*Architectural Design and History.* Required total of three hundred points of a possible four hundred, with no grade in any examination subject below sixty. Total time allowance of twenty hours.

Examination F—Architectural Composition.

Time—4 hours.

Required 60 points (of possible 100).

Examination G—History of Architecture.

Time—4 hours.

Required 60 points (of possible 100).

Examination H—Practical Building Design.

Time—12 hours.

Required 150 points (of possible 200).

8. Passing total for the Examination is 750 (of the possible 1000) points, with no group of subjects falling below required minimum.

9. Final grade for the Examination is the total of all points made, divided by ten.

10. Upon receipt from the examining body of its properly authenticated report concerning the Examination and the rating of the Candidate, the Council secretary binds a copy of this report into the permanent record of the Council. If the Candidate makes passing grades in all subjects and divisions, the Council secretary certifies that the Candidate has successfully passed the Standard N.C.A. R.B. Junior Examination in the State in which he was examined, and recommends him to all State examining boards as worthy of registration.

11. In the case of a candidate for admission to The American Institute of Architects, the Board of Examiners of the Institute may exempt from the submission of exhibits the holder of a Certificate of the National Council of Architectural Registration Boards.

A MANAGED CURRENCY

(*Continued from page* 7)

low abroad made money cheap and plentiful for productive purposes at home.

It was this easy money that helped private industry to expand production and re-employ the unemployed so rapidly.

A liberal public works policy further helped to accelerate re-employment in that it increased the purchasing and thus consuming power of the people. To that extent public works were also "monetary."

A most important effect of the devaluation that was part of the monetary policy was that it restored to Sweden its competitive position on the world markets. It permitted continued and even increased production and employment in the export industries.

Moreover, it protected the industries that produce for domestic consumption by keeping cheap imports out and restoring to the manufacturers a normal margin of profit. This promoted an expansion in the production of consumers' goods in the course of which many workers were re-employed.

Wholesale prices were raised about 10 per cent, just sufficient to restore the profits to the basic producers, that had been lost by the previous decline of the wholesale prices.

The crowning result of the Swedish monetary policy is, however, that the objective of maintaining the purchasing power of the krona in the hands of the consumers has been fully attained. For over four years this policy has now been in operation and still the consumption index of the Bank of Sweden, which represents the purchasing power of the krona, has never deviated more than 1¾ per cent above or below the normal 100 of September, 1931, when the policy was inaugurated. The krona buys exactly as much of an average market basket of consumers' goods, of the shoes and suits, rent, bread, and the many different things that the average family uses, as it bought four years ago. Recovery and prosperity better than that of 1929, have been attained with a *stable* krona.

In conclusion, therefore, Sweden's monetary policy has been a success on all counts. Actual experience has proved the monetary principles of Wicksell and Cassel to be correct. I asked an outstanding Swedish banker what he thought the future monetary policy would be. "It will be guided by our recent experience," he said. "Never again," he added emphatically, "will we permit monetary fluctuations, whether entering from abroad via the gold standard or originating in internal credit expansion or contraction, to change the purchasing power of the krona and interfere with our prosperity. We will always strive to maintain a stable krona." And this, after all, is the test of a managed currency.

Ed.: The author, who is a practising economist and author urges engineers to interest themselves in economics, and invites correspondence. Address the AMERICAN ENGINEER.

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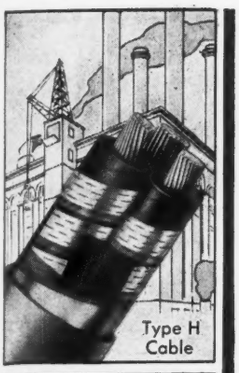
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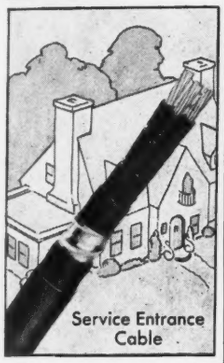
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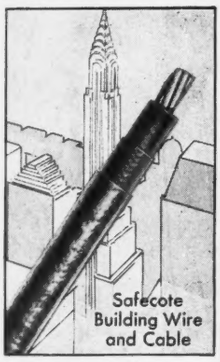
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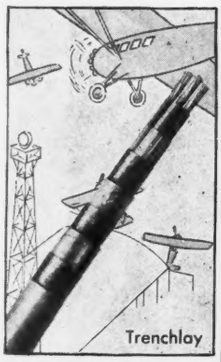
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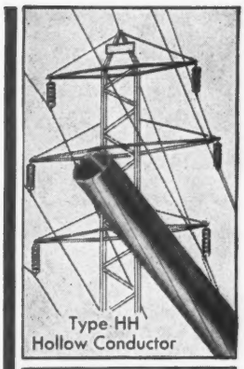
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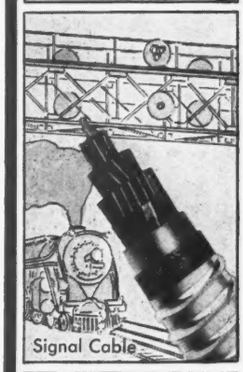
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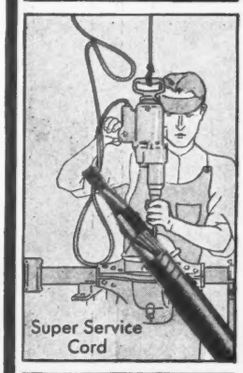
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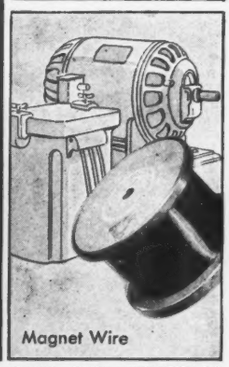
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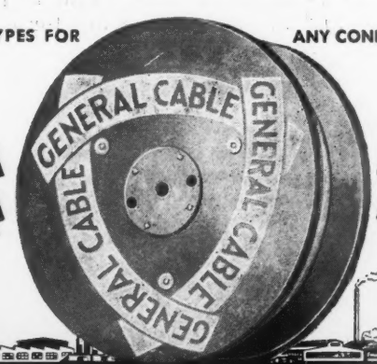

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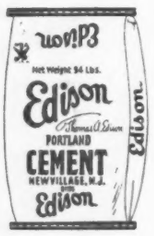
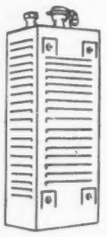
Thomas A Edison

The Edison products are the living legacies of Thomas A. Edison. Edison Batteries control the movements of trains—and safeguard millions of lives daily in every branch of railway service. Edison Emark Batteries will give superior service for your car. Ediphones, Edison dictating machines, enable executives to multiply their business capacity. Edison Portland Cement builds reservoirs, roads and edifices. Edison excellence is also apparent in the other products of Edison manufacture . . . spark plugs, magnetos and coils . . . furniture . . . electrical controls . . . home appliances . . . medical gases.



EDISON PORTLAND CEMENT

Such projects as Yankee Stadium, the 18-mile Shandaken Tunnel, the New Jersey Anchorage of George Washington Bridge were built with Edison Portland Cement. It is distributed in New England, New York, New Jersey, the eastern two-thirds of Pennsylvania, Maryland, Delaware, District of Columbia and northeastern Virginia.



EDISON NICKEL-IRON-ALKALINE STORAGE BATTERY

The Edison Nickel-Iron-Alkaline Storage Battery is unlike other batteries in principle, design and construction. It is built of steel. It is dependable and economical. Its life is two to five times that of ordinary batteries.

The Edison Nickel-Iron-Alkaline Storage Battery quickly demonstrates its superiority in motive power services, including the propulsion of industrial trucks, tractors, mine locomotives and industrial locomotives; railway services for car lighting and railway train car air-conditioning, for signal systems, multiple unit control, automatic train control and other services; marine field for lighting radio and auxiliary power equipment; for police and fire alarm systems; for emergency lighting plants and a score of other services.

Products made by the Thomas A. Edison Industries are identified by the founder's signature and are characterized by his insistence upon quality. Thomas A. Edison, Incorporated, West Orange, New Jersey.

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